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THE
CALCUTTA JOURNAL
OF
MEDICINE:

A MONTHLY RECORD OF THE MEDICAL AND AUXILIARY SCIENCES.

That alone is the right medicine which can remove disease :
He alone is the true physician who can restore health.

Charaka Sanhitā.

EDITED BY
MAHENDRA LA'L SIRCA'R, M.D., C.I.E.

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THE
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[No. 1.]

THE ORIGIN AND NATURE OF MATTER AND
FORCE AND LIFE AND MIND.

Under the above title our distinguished colleague, Dr. John W. Hayward, read a paper before the Birkenhead Literary and Scientific Society on November 4th of last year. The title of the paper is ambitious, our readers may think too ambitious for even a timid conjecture to be hazarded on the great problems embodied in it. Science, it is true, has made rapid strides in the last century. The sphere of positive knowledge has enlarged and is enlarging in all directions. But have we advanced far enough to sound the depths of Being, to build an Ontology on the slender basis of our limited knowledge? Most of the conceptions of the things around us individually and collectively have been found to have all the imperfections of first impressions,—defective, exaggerated, distorted,—that is, wide of the reality, and therefore have to be corrected and modified by the light of added experience. Some of the conceptions which dawned on the human mind not very remote from the very dawn of its existence have, it must be acknowledged, singularly enough, received striking corroboration from the revelations of modern science. The ideas of the physical world even as entertained by the wisest and most observant of ancient sages are of the former character. The

ideas regarding the human mind and its potentialities are of the latter character. The reason is obvious. In the one case the mind has to travel out of itself for exploration, in the other it has to look within itself, to watch its own states and workings. It is true that the study of the mind by itself and in itself does not and cannot yield all the truth regarding its nature and capabilities, but as there is no pure study of the mind by itself, but always in relation to external objects, most of the phenomena of the mind and their laws are well within the range of useful observation.

So far then our knowledge, the aggregate of our states of consciousness, has both a subjective and an objective basis. Is this apparent double basis really one, the conscious mind being but the outcome of the external world, and the states of consciousness which appear to be the peculiar property or prerogative of a different entity from matter, being but the result of the action of matter upon matter, just as heat, electricity, and magnetism are, existing so long as the action continues, ceasing when the action ceases? Dr. Hayward has no doubt on the subject and declares for this view in unmistakable language, as the following paragraphs taken from his paper will show:

"The logical conclusion to be drawn from these facts is that the protoplasm of the grey matter of the nervous system, especially that of the brain, is the source of the phenomena of mind, just as the protoplasm of the general system is the source of the phenomena of life. As life is the phenomena resulting from the bio-chemical changes that go on in the protoplasm of the body generally, and ceases with the ceasing of these changes, so mind is the phenomena that result from the vital changes that go on in the protoplasm of the grey matter of the nervous system, especially of the brain, and it ceases with the ceasing of these changes—goes out as the light of a lamp does.

"Mind then is not a separate intelligent or spiritual entity that uses the brain as the medium through which to work and display its powers. Nor is it a universally existing something, an emanation from the Deity, that is apportioned off in separate quantities to individual human and other beings. There is no separate Ego or I. 'I am,' is only a result of consciousness, and consciousness is only one of the operations of the mind. Nor is mind the immortal soul; it is the sum of the phenomena resulting from the activity of the grey matter of the nervous system."

The statements in this last paragraph are audaciously bold, but they are statements that have been made almost from the dawn of philosophy by what are vulgarly known as materialistic philosophers. But however bold they may be if they can be shown to be the logical inferences from positive facts they must be accepted. Before proceeding to examine the question of their basis in fact we would offer a psychological criticism on one of these statements, namely, "consciousness is only one of the operations of the mind." Is consciousness an operation of the mind? We cannot conceive of mind without the Will as an inherent faculty, and an operation of the mind must be a voluntary act, that is, an act directed by the Will. If then we look upon consciousness as one of the operations of the mind, then we must admit that the mind can create itself, and does create itself every moment of its existence, which is a manifest absurdity.

We know Dr. Hayward can cite the authority of Reid according to whom, "consciousness is an operation of the understanding of its own kind, and cannot be logically defined," and even of Sir William Hamilton according to whom, it is "the simplest act of the mind." But Reid, as also Dugald Stewart, was obviously wrong in looking upon consciousness as a special faculty. As for Sir W. Hamilton, the use of the word 'act' was, in all probability, a slip of the critical faculty. The fact seems to us to be that consciousness is not only not a faculty, but that it is not an act or operation of the mind. It is the permanent state of itself in which its cognizance of all its own states and operations, its separateness from the rest of the universe, are implied by its very nature. It is the state in which it knows that it knows, knows that it feels, knows that it desires, knows that it hopes, knows that it fears, &c. It is what characterises mind as essentially distinct from all things which are not mind. To the being who is conscious, consciousness as a fact is plain and clearly understood. "It cannot be," as Reid very truly says, "logically defined." "The reason is plain," says Sir W. Hamilton. "Consciousness lies at the root of all knowledge. Consciousness is the highest source of all comprehensibility and illustration,—how then can we find aught else by which consciousness may be illustrated or comprehended? To accomplish

this it would be necessary to have a second consciousness, through which we might be conscious of the mode in which the first consciousness was possible."

This mind, the culmination of the vital changes in the grey matter of the nervous system in the grand result "I am," Dr. Hayward tells us, goes out when those changes cease, just as the light of a lamp goes out when the oil and the wick are exhausted. It is not the immortal soul. If so, then verily were the words of the poet absolutely true when he said :

This world is all a fleeting show

For man's illusion given.

Dr. Hayward attempts to save us from this dismal and distressing view of the Universe, at least, of the terrestrial globe in which we live, when he says :

"Man finds himself a being marvellously constructed of matter in a material universe apparently evolved from atoms possessed of an innate motion that forced them to construct the universe. As a reasoning creature he is driven to be not satisfied with the knowledge that the atoms have innate motion, but must inquire after the origin of this mysterious power in the atoms. In this inquiry he meets with evidences everywhere present of an Eternal, Omniscient, Omnipotent source, and is compelled to believe that in the beginning—if ever there was a beginning—this Eternal One, the 'Unknowable' of Herbert Spencer, the 'God' of theology, gave the command : 'Let there be matter ;' or said to Himself or to the Universal Spirit, or the all-pervading Ether : 'Let there be atoms, and let the atoms have the property that will make them attract and repel each other, different atoms having different attractions, so that by their different attachments they may produce an infinity of varied motions, and an infinity of varied bodies so that matter may gradually evolve by slow and imperceptible steps up from simple to complex, and from complex to living ; through plants to animals, up to man.'"

But this is not clear enough to satisfy the human mind, or the human spirit or soul if you like to call it. Dr. Hayward has endeavoured to escape from the dilemma he has created by distinguishing mind from spirit or soul. After defining Consciousness, Memory and Recollection, and Will, and Judgment as powers or attributes or faculties, which will go out with the mind when the

bio-chemical changes in the grey matter of the cerebrum which have given rise to them, cease, he speaks of Spirit thus: "The spirit is understood to be an entity separable from the body, being simply a dweller in the body during the body's life; and at death takes its flight or departure to some unknown region." What is this spirit, whether it is what the man calls self, whence has it come to dwell in the body and what does it do there during the body's life,—these are questions about which Dr. Hayward does not tell us anything. His silence leaves us in the deepest darkness, and for us, we must say, the riddle of the Universe is not solved.

Now as to the facts on which Dr. Hayward has based his theory that "Mind is the phenomena resulting from the action of the protoplasm of the grey matter of the nervous system." These, stated by him, are:—"(1) That where there is no grey matter there is no intelligent mind. (2) That wherever there is grey matter there mind phenomena show themselves, under proper conditions. (3) That mind phenomena corresponds with the quantity and quality of the grey matter, and with the kind and intensity of the stimulus. (4) That when the grey matter of corresponding parts of both hemispheres of the brain is damaged or diseased, mind in some of its faculties is impaired or diseased, and when the damage or disease is repaired the mind is restored. (5) That on tracing the rise in the scale of intelligence there is a corresponding increase in the quantity of grey matter. The greater the quantity the larger the mind, and the finer the quality the higher the quality of the mind—from the amoeba to Newton."

These are facts which may be considered as established. There is no difference of opinion about them in the present day, at least among biologists. It is true that psychological or mental phenomena do not appear to have any the remotest resemblance to what we know as the ordinary phenomena of matter; and we would even admit with Tyndall that "the passage from the physics of the brain to the corresponding facts of consciousness is unthinkable;" and that "granted that a definite thought and that a definite molecular action in the brain occur simultaneously, we do not possess the intellectual organ, nor apparently any rudiment of an organ, which would enable us to pass, by a

process of reasoning, from the one to the other." But it is equally true that the relationship between matter and mind is intimate, and that not only is the manifestation of the latter through a material machinery, but that its very birth and development and growth seem to be coincident with the birth and development and growth of the latter. So far we are in perfect accord with Dr. Hayward. From the facts of biology, which he has so clearly stated, and which we have been carefully considering for nearly half a century, "we have no other alternative," to quote ourselves, "than to believe as in the highest degree probable that the mind has its genesis in the material organization through and by which it manifests itself. But because so, it does not necessarily follow (and here we differ from Dr. Hayward) that it must cease to exist with the dissolution of that organization."

We may cite the analogy of the relationship of the foetus in the womb to the mother in support of the view we have taken. We know that though the former is dependent upon the mother for its development and growth up to a certain point of its existence, it becomes independent of her and separated from her after that. May it not be similar with the mind or the *super essence* which thinks and feels, which is the true man, the inner man as it has been very properly and happily called, with reference to the grosser body, whose function it is to rear up the spirit enclosed within it. It may be urged that this is too material a view of the mind to be true. But if facts lead to it, how can it be helped? We know nothing of the essence either of matter or of mind. Who knows but that matter may not be mind unformed, and mind matter in its most exalted state? "Creation," as we said sometime ago (1869), "is the reclamation of chaos or rude matter. In the progressive evolution of beings which science reveals, we only see the struggle of the creative energy, if we may so express ourselves, to bring about this reclamation. We behold the light of God bursting, as it were, more and more through the darkness of chaos and dull inertia, till it appears in nearly its full effulgence (in this world) in man, in whom is found the final and the most profound stamp of the Divinity."

• According to this view the mind is the spirit of the immortal

soul and not a separate perishable phenomenon or a congeries of phenomena as Dr. Hayward would have us believe. This view has at least the merit of simplicity, in so far that we have not to invent an entity (spirit) distinct from the mind to escape from the anomaly which the perishable nature of the latter would introduce into our existence. It would be cruel on the part of Nature or her God to awaken consciousness and then to extinguish or smother it. Consciousness forces us to believe in our personal identity and to say that it ends with the organization of which it is a resultant, is to accuse Nature of practising deception on her creatures.

Having examined Dr. Hayward's theory of the origin of mind which, as regards that origin being a living material organization, we have found to be essentially correct, we have next to see how he accounts for the origin of life or living organisms. He looks upon protoplasm as the only living substance. He is not content with Huxley's definition of protoplasm as 'the physical basis of life.' It is not simply the substance in which life is manifest but it is the substance which manifests life. It is *the* living substance. It is somewhat to be regretted that Dr. Hayward has not defined what life is. In the discussion of this so important subject he should, we think, have given the grand characteristics which distinguish living beings from substances which have never lived and from beings which have ceased to live. This would have helped in following his arguments. These characteristics, we would premise, are birth, development, growth, multiplication or reproduction, and death or cessation from the living state. These are characteristics of all living beings, vegetable and animal, from the simple one-celled protophyta (bacterium) and protozoa (amoeba) to the most complex organisms of both kingdoms. And the wonderful architect of all life in this world at least is what has been called a cell which has the faculty of drawing material from its environment and imparting its own vital powers to the material thus drawn into itself which then serves for its nutrition and multiplication or reproduction of its kind.

Now it is only the living cell which can thus act upon the matter of its environment. As Dr. Hayward has put it: "Vital activity is not communicated to it by or from its environment."

the pabulum; it is innate in the cell itself. The environment does have a modifying or directing influence: acts, so to say, as a regulator or a weight on the spring or safety valve. And though it sometimes seems to possess an originating power, this is only in appearance; it has no such power; it really acts as a stimulus to the innate cell activity." It is well to remember that it is *within* the cell that this marvellous activity is displayed, which results in the changes which go for nutrition and reproduction, which have been respectively designated as metabolism and karyokinesis. In other words it is the substance of the cell which as a whole or in part has this metamorphosing power upon inorganic or dead matter. A little consideration shows that the whole of the substance of the cell cannot be living matter. For as it is continually drawing upon its pabulum and transforming the matter thus drawn, there must be some matter which is still in its inorganic or non-living state, and some which has passed the living state. It is the living substance of the cell which is called protoplasm. The word originated independently with Purkinje (1839), and with von Mohl (1844) who called the contents of vegetable cells by this name. It was afterwards extended by Max Schultze to the substance forming the body of the animal cell. This protoplasm is called bio-plasm by Beale; and Sir William Turner suggests that in order to avoid all hypothetical considerations of its origin it should be called cell plasm or cytoplasm. We do not see any objection to the old term if we restrict it to mean the living substance of the cell.

Now what is the unit of life? Is it the cell or only those parts of its constituents which have vital energy and activity. Because in some cells, especially animal cells, there is no defined cell-wall the cell has been relegated to a subordinate position, and the cell-plasm or rather only the living portion of it has been elevated to the position which the cell once occupied. We think this is a mistake. It is true that animal cells do not appear to have a well-defined cell-wall, like vegetable cells, but the fact of their having a shape however changeable shows that they have a boundary which distinguishes them from others, and it is a fact that the granules of the cell substance are more closely packed at the periphery than in other parts. Moreover the fact that all

vital activities are carried on *within* the cell, and never, so far as observed, outside the cell, as was supposed by Henle and his followers, shows that it is the cell which must be considered as the unit of life, the protoplasm forming only an essential part of it, and capable of being formed only in and by the cell.

But though the cell may not have a bounding membrane, most cells having none, the nucleus within the cell has such a membrane which separates it from the surrounding cell plasm, and gives it its well-defined sharp outline. The nucleus in its turn contains a substance apparently structureless like the cell-plasm, imbedded in which is often seen a nucleolus. A cell, therefore, is not a simple bag containing amorphous material, but a very complicated structure, the cell plasm and the nucleus possessing polymorphic characters, a few of which have been discovered, but the rest have yet to be discovered.

The most remarkable fact about the cell is that it has never yet been seen to be produced except from a pre-existing cell. Pasteur and Virchow have established this fact upon a basis which has not yet been shaken. Indeed, the progress of research is but establishing the stability of that basis more and more. The existence of protoplasm or primitive living matter has not been shown to be anywhere else than within a cell, and outside a cell the intercellular plasma or the liquid or semi-liquid matrix, in which cells are imbedded, has never been seen to differentiate itself into cells. This is a hard fact which goes against the doctrine of spontaneous generation or abiogenesis, or the production of living from the non-living. But there are still biologists of the highest eminence who are not convinced of the absolute truth of the opposite doctrine. Dr. Hayward has ranged himself with these latter. "Most biologists maintain that protoplasm can be made only by living animals and plants. There are, however, many distinguished scientists who hold that it can be produced independently; and that it was so produced originally; that is, that it was produced by means of successive combinations and recombinations of living matter, by the ordinary evolutionary processes of nature. I, myself, believe this really was the way in which protoplasm was at first made."

Dr. Hayward has given two reasons for his belief: "Though chemists are not able to make protoplasm," says he, "Nature is,

she did, and still does make it. We may not be able to detect her in the work, because in such operations she works so slowly, and with such infinitesimal quantities that we cannot see, cannot even imagine the processes or quantities. In their production of the organic 'ferments' chemists have got very near to protoplasm; and it would therefore be unwise to assert that they will never be able to go a little further and even produce protoplasm." To this it may, in the first place, be objected that we ought to reason from what we do see and not from what we cannot. What we do see is that Nature does produce protoplasm and is producing it every moment, but only from pre-existing protoplasm. And in the second place that, admitting that 'ferments' are very near to protoplasm, their production by the chemist has never yet been effected from purely inorganic materials. All ferments come under the head either of *Organized* or *Soluble*. Organized ferments owe their activity to living organisms present in it, and lose that activity with the death of those organisms, of which we have a typical example in the Yeast. Soluble ferments, it is true, have none of the properties of living matter, but they always owe their origin to living organisms, of which we have examples in Diastase and the glycogen ferment. If any of these ferments could be produced from inorganic materials not derived from living bodies the argument would have carried some weight; but they have never been.

The second reason is more cogent, and is, indeed, all that can be said in favor of the hypothesis. He says: "Now, if the foregoing is anything like what really did occur during the long series of Nature's evolutionary operations in the vast ages through which the earth has passed, it does seem quite probable that protoplasm was truly one of the products of Evolution: that it was *evolved* like all the other parts of the world out of the primitive matter of the universe, in the ordinary way of evolution, and was not *created* specially, as so many biologists maintain; there was here no break in Nature's chain, not a break-down and start afresh in the scheme of evolving the earth and its inhabitants out of chaos; but that protoplasm first appeared on the earth when some of the matter of the earth had been made sufficiently complex for the purpose. Indeed, this is what was to be expected: to expect anything less; to suppose that protoplasm had to be

specially created, would be to accuse Nature of bungling. Nature makes no such mistakes, her chain extends without a break from eternity to everlasting, by continuous infinitesimal links up through the whole of the universe; through non-living matter, living matter, life, mind and spirit onwards, perhaps as an inconceivable circle, without either beginning or end."

This is of course speculation, but it is speculation to which the mind is directed by the necessity of its being, and is in the right direction. We take leave to repeat what we said in this connection in our Inaugural Lecture on Biology delivered at the Indian Association for the Cultivation of Science on November 27, 1894: "With regard to the first problem, the problem of the origin of life, it is now universally admitted that all attempts at the production of living beings from purely inorganic materials have failed; and that whenever and wherever life has been found to originate, it has invariably originated from pre-existing life—*Omne vivum e vivo*. Hence the question of the origin of life is looked upon as beyond the sphere of scientific inquiry. And Prof. Preyer considers it as not less transcendental than the question of the origin of matter and energy, the one being as unthinkable as the other. And yet there are biologists who, from the fact of protoplasm or the physical basis of life being material, are led to imagine that living matter must be the result of some as yet un-understood physico-chemical synthesis of matter. And Prof. Lankester has gone so far as to suggest that the first protoplasm fed upon the antecedent steps of its own evolution, 'upon the albuminoids and such other compounds that had been brought into existence by those processes,' which culminated in the development of the first protoplasm.' Though, as I have already said, all experience and all experiment have hitherto been against the hypothesis its entertainment is forced upon the inquiring spirit of man, and ought not, therefore, to be looked upon as altogether beyond the pale of legitimate inquiry."

We have dealt with only half the subjects treated of in Dr. Hayward's able paper. For the other half, by far the most difficult and almost unthinkable, we have not space in this number. We may come to it at a future time.

THE EDINBURGH MEDICAL JOURNAL AND HOMŒOPATHY.

[We take the following from the *Monthly Homœopathic Review* of the current month for the delectation of our readers. They will no doubt be surprised at the cowardice displayed by the Editor of the *Edinburgh Medical Journal*, and will be amused to see how he wriggled in the well-sanded grip of one of the distinguished physicians of the London Homœopathic Hospital, Dr. Roberson Day. Our readers will remember that it was the *Edinburgh Medical Journal* which gladly admitted articles from Dr. Archibald Reith having the undoubted stamp of homœopathy, so long as the doctor could speak disparagingly of the system; but the moment he found himself unable to do so for the sake of conscience, the moment he publicly avowed his faith in homœopathy he was mercilessly thrown overboard, and was thought to be no longer fit to supply articles for the Journal. Though more than thirty years have elapsed since the Reith incident the *Edinburgh Journal* continues in its old ways still, and we are tempted to say there is no hope of orthodoxy taking to straightforwardness and truth, unless pressure is brought to bear upon it by the legislature. This is too sad indeed for the most scientific branch of the profession!—EDITOR, *Cal. J. Med.*]

We wonder how long the attempt to boycott homœopathy and homœopaths in the old-school journals will continue. The traditional tactics are strictly adhered to as yet, and we suppose that editors are too much afraid of the ban of the great trades-union to "try it on" until the voice of the profession compels them to alter their tactics. The latest illustration of these tactics comes from the *Edinburgh Medical Journal*, and this time, by an amusing mistake on the part of the Editor, he finds himself in the rather awkward position of having invited our colleague, Dr. Roberson Day, to contribute a paper to his journal. How the editor should have so known Dr. Day and yet have not known that he was a homœopath is rather curious. Dr. Day's name appears in every published list of the staff of the London Homœopathic Hospital, and in our journals, as contributing papers on the homœopathic treatment of diseases of children, which is his speciality. However this question may be speculated on, the curious fact remains. On November 4th the editor wrote to Dr. Day as follows:—

"DEAR SIR,—I am making arrangements for the journal for the coming year and shall be glad if you can undertake to send me a paper. I would like a short practical article of, say, ten or twelve pages of about 500 words each, and if illustrated so much the better. The publisher is always glad to be at the expense of reproducing good clinical pictures when they add to the interest and value of the article.

Trusting you may be able to promise me a paper for an early number,
I am, yours sincerely,
G. A. GIBSON, Editor."

To this Dr. Day replied on November 5th as follows :—

"DEAR SIR,—In reply to your request to contribute an article to your journal, *The Edinburgh Medical Journal*, I shall be pleased to send you a paper entitled "*The Treatment of Broncho-pneumonia in Children*," as practised at the London Homœopathic Hospital.

Yours sincerely,

J. ROBERSON DAY, M.D. (London).

Physician to the Department for Diseases of Children,
London Homœopathic Hospital, etc., etc."

On November 9th the editor wrote as follows :—

"DEAR SIR,—Many thanks for your kind note of the 5th and for the promise of the article contained therein. I regret that through an error on the part of my assistant the invitation to contribute an article to this journal was sent to you. As you will readily understand, it is impossible that I can avail myself of your kind acceptance. With apologies for the trouble which I have caused you.

I am, yours sincerely,

G. A. GIBSON, Editor."

It will be here noted how convenient it is to have an "assistant," afterwards called a "clerk," on whom to throw the *onus* of an "error." Such a device is familiar in a business firm when one partner has to say something unpleasant, and does so by stating that his other partner's views obliged him to say so-and-so. And in medicine, a few years ago, we had an amusing example of the same tactics, when in a certain well-known work there appeared in the "index of diseases" and their remedies quite a long list of homœopathic medicines for their corresponding diseases. When driven to explain by inconvenient criticisms, the distinguished author attempted to get out of the awkward position by putting the blame on his amanuensis, to whose care, he said, he had committed the getting-up of this most important section of the book. It is the old story of Adam laying the blame on Eve, and it is not a method we can admire.

Dr. Roberson Day, however, was not to be put off in this way. He was in no mood to lower his flag, or whittle away his homœopathic beliefs in print to please his opponents. As the late Dr. Drysdale on one occasion admirably said, "As long as we believe that the homœopathic is the law of the action of specific medicine, so must we in common honesty confess that we do. While our professional brethren separate themselves from us on that account and falsely brand us as sectarians, we must be content to bear the accusation. Until the majority of medical men return to the behavior of men of science and gentlemen, and allow homœopathy to be discussed like any other theory, in medical literature and societies, there must exist a separate literature and societies to which no more appropriate name than homœopathic can be given."

(*Monthly Homœopathic Review*, vol. xxi, p. 624). Dr. Day not unnaturally thought that the invitation to write a paper for the *Edinburgh Medical Journal* indicated that the staff of that journal was returning to the behaviour of men of science and gentlemen, but when the invitation was followed by a declinature of the proposed paper on the part of the editor, he manfully stuck to his colours and resolved to fight it out. He therefore replied on November 15th as follows :—

"You say 'as you will readily understand, it is impossible that I can avail myself of your kind acceptance.' Now this is just what I *can not understand*. Here am I, a well-qualified physician with special experience on the subject I have offered to write upon, drawn from years of private practice and a large hospital practice among children, willing to show you and your readers the methods of treatment and the results we obtain, which compare favourably with those of any other hospital I have seen or heard of. I promise you it shall be a clear and interesting article—practical and essentially clinical, and every medicine used shall be stated. I will not go into any theory of action of remedies, but confine myself to cases, symptoms and results. If you like, I can illustrate with temperature charts, which are always kept, with tracings of temperature, pulse and respirations. Now here is an offer ! Could I do more ? I am, moreover, willing to accept any suggestion you may be pleased to make on the subject which would help me in the preparation of the article for your special readers."

To this courteous letter the editor replied on Nov. 21st :—

DEAR SIR,—The invitation to contribute a paper to the *Edinburgh Journal* was inadvertently sent to you by the mistake of a clerk, and I am sorry that it has been the means of putting you to trouble. I do not think it can be difficult to understand why the journal must remain closed to practitioners who profess an exclusive or special system. I am unwilling to say anything unpleasant, therefore the phrase about your being able to understand.

Yours faithfully,
A. GIBSON."

We may here note that the "assistant" has come down to be a "clerk." And we may also remark that it is not exactly usual for the editor of an influential journal to give such *carte blanche* to a "clerk" as would permit the possibility of his "inadvertently" sending the cordial invitation of the first letter to a London physician to contribute a paper. We hope the "clerk" got a severe castigation and did not put his tongue on his cheek while receiving it.

On December 3rd, Dr. Day replied :—

"DEAR SIR,—I should have replied before to yours of November 21st, but pressure of work has hindered. There is surely no need to say anything unpleasant, as we are gentlemen and members of the same profession and have at heart the desire to do the best for our patients. But your clerk's error has made it necessary for me to ask for an explanation, and I

see it is the same old story. You allopaths know little or nothing of what we homœopaths do or practice. (I use these terms simply for the sake of clearness.) We are both trained and qualified in the same medical school but the homœopaths have studied in addition, and conscientiously believe in the use of remedies (not secret remedies) used in accordance with the law of homœopathy. Should this be a sufficient reason for closing your journals and societies to us? The position is illogical and untenable, and outside our profession incomprehensible. I appeal to you as editor to have the courage to admit my paper. Just think how allopathic practice has changed since Hahnemann's day. Think of the bleeding, blistering, salivating and purging which was regularly practised, and the overwhelming number of coal-tar products which are used to-day and discarded as worthless to-morrow, the ever-changing method of prescribing, because there is no law to bring order out of chaos, and then turn to the constant and even course homœopathy has run since the time of Hahnemann. *Magna est veritas, et prevalebit.* I wish I could talk the matter over with you, for I feel you have a great responsibility resting on you. We have been called quacks, and charlatans, and dishonourable, and every evil motive ascribed to us—for why? Yes, please say. But the unbiassed public, the educated public (for we have patients in all ranks of life), are simply shocked at the uncharitable way in which the allopaths treat us. Yours, etc."

To this the Editor of the *Edinburgh Medical Journal* made no reply. He must have felt uncomfortable by Dr. Day's plain speaking, and deemed that silence was the best refuge.

The whole incident is entertaining but melancholy. The editor probably thought, notwithstanding the "inadvertence" and "error" of his "clerk," that Dr. Day would feel flattered at being asked to contribute to the journal, and that he would for the time drop his colours and give a good paper without introducing homœopathy by name. Had he done so, very probably the paper would have been accepted. But to Dr. Roberson Day's honour he would have none of this, and preferred to speak of his beliefs openly and honestly, whether his paper was accepted or not, and we have no doubt the editor in his heart honours him for so doing. At the present day the old school in practice and in the press welcomes any men who abjure the name of homœopath and who puts his views and modes of practice in his pocket, while anyone who has the courage of his opinions and the honesty to say what he believes, and what his practice is, is boycotted. And this is the twentieth century!

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THE HOMŒOPATHIC JOURNAL OF PEDIATRICS.

WE hail with pleasure the appearance of this new Journal in our school on a most important special subject. We allow the Editor to speak for himself in justification of his bringing it out, and on the importance of the subject to which it is devoted under the heads of "an introduction" and "history of pediatrics." This the first number is rich in original articles, notes and comments, therapeutic hints, &c., and if the subsequent numbers are as good as this, it will be a decided success, and add materially to our knowledge of children and their diseases.

* "AN INTRODUCTION.

"Many would at first think that there cannot possibly be room for another medical journal, but when we realize that this will be the only journal in the Homœopathic profession in this country to be exclusively devoted to articles on diseases of children, then the most doubtful one must confess that there is a field for this journal, and an uncultivated one at that.

"The beginning of a medical journal, that shall be devoted exclusively to the subject of Pediatrics, seems to be a great need in our school of medicine. It will be the constant aim of the editor to make this a journal for the profession. To make this new venture a success, he must have the hearty endorsement and encouragement so necessary from physicians. The amount of work attached to the publishing of a new medical journal is indeed great; but all this will be considered a trifle, if men in the profession will lend a helping hand.

"HISTORY OF PEDIATRICS.

"The history of Pediatrics is as old as medicine itself. The literature that pertains to this subject has developed slowly for years, until now it is looked upon as a distinct and almost separate branch of medicine. Pediatrics must be considered as an independent subject, for it gives as much to general medicine as it receives from it.

"Infancy and childhood are the links between conception and death, between the fetus and the adult. The physiological labor of man is reproduction, while that of the young is both reproduction and growth: the history of man is not limited to any one period. There are anomalies and many diseases that are met with only in infancy and childhood. Almost all the diseases of the intestinal tract in children have their own peculiarities, and require the special study of food and hygiene. Most cases of intussusception occur in infants, both acute and chronic hydrocephalus, acute eruptive diseases, whooping cough and diphtheria. The Homœopathic profession should, with the large number of children they attend, add much to the medical knowledge of this subject. There is not any branch of medicine that has made such rapid advance as the department of Pediatrics."

EDITOR'S NOTES.

Congenital Facial Paralysis.

Marfan and Dr. Lille (*Prog. Méd.* vol. xiii, p. 72, August 3rd, 1901) record the case of a newborn infant suffering from peripheral facial paralysis. There was a marked nervous heredity, and the infant had been born at the eighth month and brought up on the bottle. At 3½ months it suffered from gastro-intestinal dyspepsia, and was brought into hospital. There was complete facial paralysis of the right side, and a malformation of the external ear of the same side. The external auditory canal was rudimentary, and there seemed to be no tympanic cavity. The child died, and on dissection no internal ear was found on the right side. The brain appeared to be normal but the nuclei of the right facial nerve were in an atrophic condition. The paralysis, therefore, was not obstetrical in origin.—*Brit. Med. Journ.*, Nov. 23, 1901.

Pylorectomy : Nineteen Years After-History.

Rydygier (*Przegląd Lekarski*, No. 29, 1900) reports the after-history of his oldest case of pylorectomy. He operated, 19 years before that report was published, on a woman then aged 30 for a gastric ulcer in the pylorus which had penetrated into the pancreas, the affected portion of which organ was at the same time excised. Since then the patient has had five children, the eldest 17 years old. Her digestion is good, and she works hard. Rydygier prefers pylorectomy to gastro-enterostomy in cases of perforating ulcer of the pylorus without much adhesions and in fairly healthy women. It avoids the danger of future hæmorrhages or malignant degeneration of the ulcer; again, in gastro-enterostomy a "vicious circle" is established, and in one case of Rydygier proved fatal. In the above case of pylorectomy a conical piece of the posterior wall of the pylorus was excised, so that the duodenum and stomach could be united directly by suture without any folding.—*Brit. Med. Journ.*, Nov. 23, 1901.

The Anarchist; President McKinley's Assassin.

The great questions of capital and labor, and the social problems of the day are being discussed from two entirely different standpoints. One, from that of law and order by philanthropists with cultured minds and a certain amount of logic, would reach the desired results and bring about the millennium of justice and equality by educating the masses up to what they consider a correct idea of human rights,

and liberty ; the other, with a brain so constructed as to designate an ideal typical criminal outside of any touch of humanity, is of that class clearly outlined by Lombrosi and the other great Italian criminologists as not insane, but criminal in all their instincts. Of this type was the assassin of the President. As a boy he was regarded as an incarnate devil upon whom the punishment to which he was frequently subjected by his parents produced no effect. His father predicted that if he did not mend his ways he would be hung. He was cruel, and delighted in torturing the animals on his father's farm. By the neighbors he was looked upon as a pervert with no sense of right or wrong, and like most of his class was an arrant coward. His great vanity with the idea that his act would attract the attention of the world alone sustained him after his condemnation, but even that failed before the execution.—*Medical Times*, November, 1901.

An Effective Depilatory.

Dr. Charles Greene Cumston observes in the Boston Medical and Surgical Journal that one of the most important points in surgical technique is the complete removal of hair from the field of operation. The razor is often badly tolerated, and shaving is difficult, especially of the scrotum, the vulva, and anus. In view of this Dr. Cumston has for some time employed with great advantage a paste of calcium hydrosulphate, as recommended by Raybaud, of Marseilles. The preparation of this paste is as follows : Two parts of freshly slaked lime, from which all grit has been removed, are mixed with three parts of water. The resulting milk of lime is traversed by a current of sulphuretted hydrogen. The milk of lime becomes pasty, and from milky white the mass becomes a bluish green. The odor of sulphuretted hydrogen is not very pronounced. This product is not caustic in the slightest degree, and may be manipulated without any fear. It will not soil the hands unless they are moistened with a solution of some mercurial salt whose metal is precipitated by sulphuretted hydrogen. The paste must be put up in brown glass bottles and well corked, because calcium hydrosulphate is decomposed by both light and air, more especially the latter. The carbonic acid in the air liberates the sulphuretted hydrogen and transforms the paste into an inert carbonic compound.

The way of employing this paste is very simple. With a spatula or spoonhandle a thin layer is spread on the parts from which the hair is to be removed. If the hair is very long it may be clipped off with the scissors first, but this precaution is not necessary if one is

careful to see that the paste is applied down to the skin. The paste is left on for five minutes and then with tepid water and a towel it is removed by gentle friction. The skin will then be found to be free from any trace of hair and better shaven than by the cleverest barber. Dr. Cumston says that the paste is absolutely devoid of any irritating properties to the skin, is painless, and leaves no trace behind. The hair grows again perfectly, just as when it has been removed with the razor. In scalp wounds, in genito-urinary, rectal, and gynecic surgery it is much better than the razor, as a perfectly smooth skin results.—*Scientific American Supplement*, November 9, 1901.

Gastro-Intestinal Hæmorrhage in Newborn Infants.

Audry (*Lyon Médical*, October 27th, 1901) has met with evidence of considerable hæmorrhage into the alimentary canal 14 times in a series of 100 necropsies of children under 1 month old. The examinations dated from the beginning of December, 1900, till early in May 1901. The children all died in an infant asylum, where the conditions of life were admittedly abnormal. A great proportion of the children admitted were either prematurely born or very feeble, and in one year (1890), with 790 admissions, there were 280 deaths. In the 14 cases the small intestine was found almost constantly involved; once only the hæmorrhage was limited to the stomach, and in a second case was seen almost to be confined to the stomach. The upper part of the duodenum was generally free from blood. The large bowel contained blood in three cases only, and in these the small bowel was practically full. The blood in the intestine was liquid, sometimes syrupy. The intestinal mucous membrane was intensely congested, in some instances almost ecchymotic. Small abraded patches were found about the size of a pinhead, but never any ulceration of the least importance. Peyer's patches were sometimes much congested. The nervous system was not examined in all cases, but in one instance the intense meningeal injection which Billard found constant was absent. There was one instance of concomitant pulmonary hæmorrhage; in most cases the lungs were hyperæmic, and showed patches of broncho-pneumonia. There were several examples of infection among the cases recorded. One child was infected with influenza by a nurse, another with whooping-cough. A third patient showed distinct evidence of inherited syphilis. In most of the cases, however, the symptoms were first those of simple gastro-enteritis. The cases were of much more frequent occurrence in cold weather, but Audry believes that there was an epidemic and

even a contagious element in their etiology. Thus four instances of hæmorrhage were met with between January 29th and February 1st. Again, there were 5 cases between April 10th and 25th. In 11 cases of the 14 there was no hæmatemesis or melsena; the signs were simple vomiting, and especially diarrhoea. In 5 cases cyanosis was pronounced. The treatment advocated is prophylactic, especially the improvement of hygienic conditions.—*Brit. Med. Journ.*, November 23, 1901.

A Double Stain for the Bacillus Diphtheriæ.

Various staining methods have been devised to demonstrate and study the structure of the bacillus of diphtheria. It is stained best by Löffler's solution of aniline blue. There are several methods which will produce a double stain; Professor Neisser, for instance, has devised a stain which colours the protoplasm brown and the chromophilic points blue-black. In a reprint from the *University of Pennsylvania Medical Bulletin* Dr. R. L. Pitfield, assistant bacteriologist to the Pennsylvania State Board of Health, describes a method which has the property of sharply differentiating the diagnostic features of the Klebs-Löffler bacillus and also renders it easy to see that the chromatin points are of a substance different from the rest of the protoplasm. Three solutions are required: (a) silver nitrate, five grammes; distilled water, five cubic centimetres; and saturated alcoholic solution of fuchsin, three cubic centimetres; (b) pyrogalllic acid, one gramme; 10 per cent. sodium hydrate in water, five cubic centimetres; and distilled water, 10 cubic centimetres; (c) carbol fuchsin solution, 10 drops; and distilled water 10 cubic centimetres. After a glass slide or coverglass has been prepared from the material to be examined the film should be fixed with heat, and a small quantity of solution (a) poured on, heated to boiling, allowed to remain on for one minute, and then washed off. The specimen is then treated in the same manner with solution (b), and finally a small quantity of solution (c) is poured on, allowed to remain for two minutes, and then washed off and the glass allowed to dry. On examination the organisms will appear of a delicate pink colour of slightly uneven shades, corresponding to the density of the protoplasm. At one or both ends, and often in the middle, brilliantly shining black points appear, which stand out very sharp and clear. The cell membrane stains a grey-brown of very light shade. Dr. Pitfield states that the morphology of the diphtheria bacilli varies greatly. In organisms of very low virulence he has observed that the bacilli

exhibit these points at the very ends of the rod; they appear simply attached; there may be a small point in the middle. Other bacilli of greater virulence show these points well within the protoplasm, but yet strictly polar as to their position.—*Lancet*, November 23, 1901.

Chemistry of Nerve-Tissue.

A recent number of the *Comptes Rendus* (No. 6, Tome ii., 1901) contains an article by M. N. Alberto Barbieri on an analysis which he has made of the fresh brain of the ox. The brain freed from blood is triturated with three times its weight of distilled water and pressed through a cloth. A very fine and homogeneous emulsion is thus obtained, which is heated in a sand bath at 45° C. for half an hour or 40 minutes. When cool it is treated with ether in a vessel of moderate size, which has a stopcock at its lower part, and is allowed to remain at rest for 24 hours. It then exhibits two layers—an upper layer of grey colour and an inferior white layer. The inferior layer is drawn off, whilst the upper layer is exhausted with ether in the same vessel until the ether remains colourless. Three groups of substances are thus obtained—namely, those which are soluble in ether, those which are soluble in ether and water, and those insoluble in these neutral fluids. The first group he clears of ether by evaporation and slightly saponifies the residue with a solution of potash in alcohol. The soap is again treated with ether, which leaves undissolved a brownish substance very rich in sulphur and phosphorus, probably consisting of nucleins. The portion dissolved in the ether is filtered and the soap is dissolved in distilled water. By filtration cholesterin, which melts at 145° C., is separated. The alcoholic liquor is now rendered feebly acid by hydrochloric acid and some common salt is added which precipitates the fatty acids. From the molten lye rendered alkaline by lime an aromatic body is obtained by distillation which has not yet been isolated, but which is soluble in alcohol and ether and is capable of combining with alkalis. The nucleins above mentioned are neutralised and slightly acidified with hydrochloric acid; treated with boiling alcohol they become soft and viscous, and without dissolving yield cerebrin. From the second group, after treatment with strong alcohol and sodium chloride, he obtains a precipitate of two globulins, and after filtration and addition of pure potash alkali globulin. The alkaline solution after being again filtered and distilled yields a ptomaine, an aromatic substance, a body intermediate between leucine and butalanine and volatile fatty

acids. The latter he believes to be pre-existent normal products. On drying the globulins and exhausting them with alcohol in order to remove the cerebrin, the neucleins combined with fats are obtained together with a colouring matter, and aromatic substances, one of which resembles fish brine in smell. From the third group dried at 100° C. and exhausted with boiling alcohol he obtains cerebrin in large quantity and a body named nomocerebrin, which is gelatinous, refracts light strongly, and swells in water and alcohol. By further treatment of this group with alkali, chloroform, and acetone an oily substance crystallising in white needles fusible at 133° C., and becoming red by contact with sulphuric acid (erythro-cholesterin?) can be separated. By treatment with sulphuric acid, precipitation of the acid with baryta and addition of alcohol, an albuminoid, probably proteose, is isolated, and, finally, by boiling with a solution of soda and addition of alcohol, keratin alone is left.—*Lancet*, Nov. 30, 1901.

St. Luke as a Surgeon.

The Revised Version of the Greek Testament has more than justified itself, but who would have expected from so accomplished a scholar as Mr. Augustine Birrell, K. C., a fresh illustration of its need? Such, however, is the fact—all the more surprising that he was quoting from “the beloved physician” who stands first of the Synop- tists in point of literature, whose Gospel, in fact, is designated by that consummate critic Renan as “*le plus beau livre qu’il y ait*.” Speaking at Epsom on Nov. 20th on the all-absorbing question of the hour Mr. Birrell is reported to have said: “Our first duty will be to bring back thousands and tens of thousands Boer prisoners and restore them to their farms. It would be an expensive work pouring oil and wine into the gaping wounds of war.” To pour any such mixture “into” any such lesion would be “expensive” indeed! But what does St. Luke, who knew his business, represent as the practice of the Good Samaritan—a practice which he includes in his general praise of the benevolent act? “He bound up his wounds, pouring ‘on,’ not ‘in’ (ἐνίχεν not ἐνχέν), oil and wine.” In other words, as the Good Samaritan applied the bandage he kept pouring oil upon it to keep it soft and prevent it from stiffening, while adding wine to stimulate the anæmic condition of the parts. Such were the therapeutics of the time—therapeutics (as we know from Galen) recognised as orthodox more than a century later, when, indeed, a paste combining the two liquids was a popular pharmaceutical preparation. Mr. Birrell, and many, we fear, besides himself, would be none the worse for reading

"Some Lessons of the Revised Version of the New Testament" by the great Cambridge theologian and exemplary bishop, the late Dr. Brooke Foss Westcott. There he will find an anecdote which, besides illustrating the need for a Revised Version, has a special interest for every medical man—for everyone, in fact, who makes the human frame the object of his reverential study and care. "Archbishop Whately," says Dr. Westcott, "in his last illness begged a friend to read to him St. Paul's description of the Christian's hope as he looks 'for the Saviour, the Lord Jesus Christ, who shall change' (so the friend read from the Authorised Version) *our vile body*, that it may be fashioned like unto His glorious body.' 'No, no,' interrupted the Archbishop, 'give his own words. He never called God's work *vile*.'" "And so now we read, 'who shall fashion anew the body of our humiliation, that it may be conformed to the body of His glory.'—*Lancet*, Nov. 30, 1901.

"The Violet Cure"

A paragraph has been going the round of the press, describing how a tumour of a tonsil, the diagnosis of which was "made certain by microscopic examination of a small portion removed," was "cured" by the application of a number of fomentations made from an infusion of green violet leaves. The patient, in gratitude for her recovery, has had printed some leaflets describing the mode of preparation and application of this infusion. We can fully enter into her feelings. She had suffered greatly for four months from a throat affection which was relieved by no treatment. She grew steadily worse and her life was despaired of. The diagnosis of "cancer" seemed to be confirmed by microscopic examination. Within a week of the application of infusions of violet leaves much of the swelling had disappeared and all pain had ceased, and in a fortnight the "cancer" of the tonsil had entirely disappeared. Overjoyed at her own recovery she hastens to make known to other sufferers the marvellous and simple method of treatment, ignorant, that already many hopes of recovery have been founded on similar unsubstantial basis. The whole importance of the story depends on the accuracy of the diagnosis of epithelioma. All who are familiar with the clinical signs of a malignant disease of the tonsil can easily believe that it is not difficult to mistake deep-seated inflammation of the region for a malignant growth. As to the microscopic examination, the arrangement of the epithelium of a normal tonsil may easily resemble the epithelial down-growths of an epithelioma, and the resemblance is still more

striking when chronic inflammation is present. The history of the case points to a very natural error of diagnosis. The violet leaf, by the way, figures not infrequently among the recipes of the old Anglo-Norman writers whose manuscripts are preserved in the British Museum. In modern pharmacopœias the violet is noted for its cathartic and emetic qualities, or, to speak more accurately, the *Viola tricolor*, or pansy, possesses these useful attributes. The dog violet also is vaguely recorded in an old edition of Balfour's "Botany" (1854) to have been at some time or other prescribed for "skin disease." In the age of the Plantagenets monkish medical writers treated most diseases with the violet, whether dog, pansy, or sweet March they do not state. Intermingled with a multiplicity of other ingredients the modest flower was used to treat "a streyness of the heart," an illness akin, we may suppose, to dyspepsia. It was said to be good also for the stone, and if a broken fragment of bone had to be expelled from the flesh the violet, with other herbs, was considered most useful. Into these old medical mixtures the violet was always introduced in "a good handful," and we are at liberty to suppose that its pleasant perfume, in an age when contrasts were much insisted on, was supposed to work wonders against noisome suppurative ailments. The Anglo-Norman writer of Manuscript B in Henslow's valuable account of early English recipes gravely mentions that a decoction of violet leaves, in conjunction with several other herbs, will enable a sufferer to slay the worm in a sore after its presence has been duly discovered by the all-night application of a piece of new cheese. The violet leaf, according to the same forgotten scribe, whom Professor Skeat pronounces to have been a Norman-Kentish man unfamiliar with English, is useful in the process of wound-healing, but the mediæval authorities never thought of "curing canker" by means of violets. Nor do we think that such a method of therapy will find a place in twentieth-century pharmacology. —*Lancet*, November 23, 1901.

The Report of the McKinley Case.

The physicians and surgeons who attended President McKinley through the closing days of his life presented a lengthy report recently, before a meeting of the State Medical Society, covering the medical and surgical history of the case of the martyred statesman. It was signed by all who were in attendance and read by Dr. Mann.

Dr. Mann did not mention the operation, but described the President's symptoms and treatment from day to day, going into the fullest

details. In speaking of the bulletins, Dr. Mann said that there was no bacteriological infection. Continuing, he said :

.. "If you ask me what caused the President's death, I could not tell you. I doubt if that will ever be discovered. Amongst contributing causes, however, were the President's age, his lack of exercise and his naturally weak heart, which made his pulse high."

Dr. Mann was asked why the X-ray was not applied, so that the missing bullet might be located. Dr. Mann replied that there was nothing in the condition of the patient to show that the bullet was doing any harm and he said that if the "X-ray had been used it would only have been to satisfy the curiosity of the physicians and the excitement attending the operation would have been harmful to the patient, so we refrained from using the apparatus."

Dr. Mann went on to say that at no time whatever had there been the slightest disagreement among the physicians. He said he had never known such complete harmony among physicians in attendance on a single patient. Dr. Mann did not say anything of the autopsy, but described the technical treatment.

Dr. Herman Mynter corroborated all Dr. Mann said. He spoke of the remarkable exhibition of patience Mr. McKinley had displayed and of his charity toward his assassin, and said that the President's manner of bearing his trials was so impressive that there was not one of the nurses who would not have gladly taken his place.

Dr. Gaylord's report of the autopsy says that nothing of importance was noticed about the wound on the chest caused by the first shot. The abdominal wound showed no evidences of necrosis or sloughing. No inflammation of the peritoneum was found. The track of the bullet was traced through gangrenous tissue in the fat behind the kidney to the muscles of the back wall of the abdomen. The direction of the bullet, however, could not be traced any further. In spite of all efforts the bullet could not be found and the autopsy had to be discontinued, because the time allotted to it by the family of the President had been exceeded. Dr. Gaylord adds: "We were satisfied that nothing could be gained by locating the bullet, which had set up no reaction."

Dr. Gaylord believes that the repair to the stomach wounds was effective, and says that the gangrene around these wounds does not seem to have been the result of any well defined cause. The wound in the kidney, he continues, was of no importance, except as showing the track of the bullet.

The report of the bacteriologist is largely negative. A culture

taken from the wound before death showed several varieties of germs expected in such cases. There were present two of the ordinary germs of suppuration, and one gas forming germ of unknown identity. As the result of an examination of various tissues and fluids removed after death, Dr. Matzinger concludes that bacterial infection was not a factor in the production of the condition found in the autopsy.

A chemical analysis by Dr. Hill of the remaining bullets and of the contents of the cartridge chambers in the murderer's pistol showed that there was no poisonous material, thus disposing of the theory of a poisoned bullet.

It would seem that the report sufficiently answers all criticism.—*Medical Times*, November, 1901.

A Case of Anomia and Paraphasia with a Focal Lesion.

Dr. George H. Thomas reports in the *Boston Medical and Surgical Journal* of Oct. 31st a case of peculiar interest, firstly because of its rarity, and, in the second place, because it adds a little more to our knowledge of the cerebral localisation of that form of aphasia known as anomia—i.e., the inability to recall the names of objects. The literature of the subject comprises two cases reported by Dr. Graeme Hammond, one by Dr. Edwin Jack, and an earlier one reported by Professor C. K. Mills of Philadelphia, four cases in all. Reference to the subject of anomia in a case of cerebral hæmorrhage has already been made in these columns. The present case is that of a man, aged 60 years, a lawyer. He was a healthy person, the father of several children, and free from syphilis and alcoholic habits. A few months before his present illness he had headaches "for the first time in his life," and on one occasion acted very strangely to his wife, "using profane language to her which he afterwards entirely forgot." He had always been a man of refined sensibility and fond of his wife. The headaches were diffuse but they were most marked on the left side of the head, and eventually they became more severe and persisted day and night. On consulting his physician in November, 1900, the latter observed that the patient "acted strangely and had a noticeable difficulty in finding words to express himself, On entering the [physician's] office the patient went to the stove, where a hot fire was burning, and stretching out his hands asked if there was a fire in the stove. The question was repeated several times by the patient although the answer was each time in the affirmative. This and the "headache and some difficulty of speech were the only symptoms. He

was prescribed a sedative and slept slightly better on the following night. Next day he had to draw up several legal documents, which on examination were found to be carefully and correctly written. Later he called to see the physician, and in conversation he mentioned that gentleman's name several times, "but when asked directly to repeat the name he was unable to do so. Several attempts to repeat the name of his law partner failed completely. The doctor gave the names of a number of neighbouring lawyers, to all of which he shook his head and evinced much annoyance that his memory was so poor." After admission to the hospital these symptoms continued. His tongue became coated and dry, the breath was offensive, the pulse was weak and somewhat rapid (90 per minute),* but the temperature was normal. The headaches persisted and he looked "worried and anxious, and his appearance was that of one suffering from sepsis." Vision, pupils, and optic discs were normal. There were no motor or sensory disturbances of the body. The knee-jerks were sluggish. Marked tenderness was present over the left mastoid region and a fetid otorrhœa was observed together with deafness in the left ear. He "replaced one word for another, as in the use of adjectives," in speaking (paraphasia), but could read aloud without mistakes, understood written and spoken words, and wrote correctly from dictation. When shown an object, and asked to name it, he found it impossible, although he showed clearly that he knew the object and its uses. A large number of objects were tried with the same results. Whenever he miscalled the object he knew his mistake at once, and after several attempts to give the correct name gave up in despair." When his name was mentioned he recognised it at once, but a few moments afterwards he failed when asked his name. He appeared to understand all written and spoken words. The urine was normal. The tenderness over the left supra-auricular region was now intense and the diagnosis was made of a lesion involving the left temporal lobe below the angular gyrus. On trephining at a spot one inch below the angular gyrus the brain bulged but appeared to be normal. A second trephine hole was made over the lateral lobe of the cerebellum with negative results. The patient died shortly afterwards and the necropsy showed the presence of mastoiditis with necrosed bone and foul smelling pus in the mastoid cells. The brain was normal in appearance except in the posterior part of the inferior temporal gyrus, where an abscess cavity was found of about the size of a walnut, with thick, foul, viscid pus. The brain tissue around its margin for three-fourths of an inch was somewhat softened. The site of the lesion corresponded very precisely with that recorded by Professor Mills in the case of a patient with similar symptoms.—*Lancet*, Nov. 30; 1901.

CLINICAL RECORD.

Foreign.

A CASE OF PARALYSIS AGITANS COMPLICATED
WITH SPINAL TRAUMATISM CURED BY
HYPERICUM.

By GILES F. GOLDSBROUGH, M.D.,

Physician in Charge of Diseases of the Nervous System, London
Homœopathic Hospital.

The following case is deemed worthy of record as illustrating interesting features in paralysis agitans, in the diagnosis of spinal traumatism complicating the former malady, also the value of *hypericum* as a remedy in the latter condition. The following are the notes of the case, by Dr. Grantham Hill, formerly resident physician at the London Homœopathic hospital.

G. H., a man aged 54, formerly a clerk, but of no occupation for two years, and living alone, was sent by Dr. Roche, of Norwich, for admission to the hospital, under Dr. Goldsbrough. For two years he had had much anxiety; previously he had been in the Indian army for nine years, when he had dysentery, also a soft chancre for which he was treated locally, no secondary symptoms following. His present illness began two years ago. He retired to rest in good health one night and awoke at dawn finding his left arm shaking violently and his head slightly, and on attempting to walk found a weakness of the left arm and leg. He remained in bed a few days and slowly improved, the tremor becoming less and the power of walking partially returning. So much was the improvement that he was able to go out and ride a tricycle. A few months afterwards he had a fall from his tricycle, when he is said to have been unconscious for some hours. He was removed to Chelmsford Infirmary, where he remained seven days, and came out comparatively well, except there was no change in the tremor of his arm and leg. Two or three weeks ago, on waking he was seized with a severe pain in the left loin, accompanied with nausea and profuse perspiration. On attempting to walk, the left leg was much weaker than usual. This condition lasted a week or more without improvement. There was no change in the amount or appearance of the urine passed, or in micturition. Patient was admitted to the London Homœopathic Hospital on March 30th, 1901, and the notes taken the next day.

Condition on examination. The pain in the loin has nearly ceased the past two days. He has been resting in bed since admission. *Mental state.*—A sensitive, timid man. Answers questions intelligently. Suffers from despondency. Sleeps fairly well. Calls out frequently during sleep but has no recollection of dreams of any kind. *Speech* slow, otherwise normal. *Sensorium.*—Headache over both parietal regions. *Organs of vision.*—No nystagmus. Pupils react to light and accommodation. Movements of ocular muscles good. Arcus senilis well marked. *Hearing, taste and smell* normal. *Sensory system.*—Has a band of hyperæsthesia at the level of the fourth

lumbar vertebra. *Motor system*.—Distinct loss of power of the flexors and extensors of the left arm and leg. Rigidity of facial expression especially marked on movement. At rest there is no tremor, but on movement a moderately coarse tremor of the left arm and hand and head, which is increased by attention directed to it and which can be nearly entirely controlled by the will. *Reflexes*.—Plantar sluggish on right side, more active on left. Epigastric and abdominal absent on the left side, normal on the right. Patellar normal on the right, exaggerated on the left. *Sphincters* normal. *Digestive circulatory and respiratory systems* normal, also the urine.

Progress and treatment. No medicine was given until April 5th, when hypericum 6x was ordered, rest in bed being carefully enjoined. On April 8th there was general improvement, the pain had entirely ceased. He feels stronger, and the tremor was less marked. April 11th.—Still improving. Has some pain in the left great toe and cramp in the left leg and foot. Is constipated. To have nux v. 3x mij night and morning. Continue hypericum. April 15th.—Improvement continues. Has lost pain in toes. April 22nd.—Grasp of hand much stronger. April 27th.—Discharges much improved.

Patient subsequently visited the out-patient department, and the change in his condition compared with that on admission to hospital was very striking. His gait was normal, expression much brighter and less rigid; no tremor was visible throughout the visit. He had had no return to pain of any kind.

Remarks. As regards diagnosis the case at first looked very puzzling. Hemiplegia, paralysis agitans, some form of spinal paralysis, all presented themselves as possible hypotheses. The pain in the loin also much resembled renal colic. The conclusion arrived at, however, was the only one which accounted for all the symptoms. Much allowance had to be made for the man's exaggerated functional sensitiveness. This gave the appearance of his illness a much more serious aspect than it really bore. The essential condition however was, and is, a beginning of paralysis agitans, the rigidity of face and the character of the tremor and weakness being a warrant for that conclusion. The pain in the loin I regarded as neuralgic, which, with the zone of hyperæsthesia and the added symptoms referable to the spinal cord, could be attributed to spinal traumatism, and a probable lowering of the vitality of the nervous system from privation.

The effect of rest in bed, good feeding, and hypericum bore out this view of the case, and as all symptoms indicating spinal traumatism and abnormal functional sensitiveness disappeared, the true character and degree of the paralysis agitans alone remained.—*Monthly Homœopathic Review*, Dec. 1901.

SOME CASES.

By EDWARD J. BURCH, M.D., Carthage, Mo.

• CASE I. May 25, 1901.—James P., male, unmarried, forty-five years old; plethoric with florid face, chronic indigestion and gouty tendency. Had headaches throughout life; mother similarly afflicted. Mother's sister had epilepsy. Headaches increasing in frequency

and severity the last year. Is mine superintendent; no regularity in attacks. Before attack: Feels very heavy and stupid; yawning, nausea, slight vertigo, dancing before eyes; stomach very sour; sometimes great hunger, which is increased by eating. During attack: Continuous, pressing pain, beginning back of both eyes, and extending to occiput and neck (bryonia); ameliorated by recumbent position and by keeping quiet (bryonia); wants head low and is sleepy (gelsemium); tingling all over, but especially in fingers (aconite, secale); sometimes chilliness (nux vomica); spits continually (iris, epiphagus); cold perspiration over entire body; bilious vomiting (iris), which always relieves; no ease until bile is vomited (iris, nux vomica); stomach sour or bitter. Wants to lie down and remain quiet, unless attack is unusually severe when he must walk in the open air; face usually pale and feels large (nux vomica). After attack: Feels like a new man; wants a square meal as soon as the pain leaves. Buoyant, as though a great load had been removed. Treatment: Iris versicolor, 6x, four times daily. June 1, no improvement. Prescribed iris 30th, four times daily. June 12, no change; says that if he can only get to sleep the pain leaves. On the strength of this statement, prescribed sanguinaria 6x, a dose every half hour during headache, and four times daily between attacks. July 2 no better. Had four attacks since last report, has noticed that he has a good deal of fluttering in the stomach. This made me think of nux vomica at once, and when he stated that his head often felt very large and that drinking coffee always makes his headache worse, I could not get to the nux bottle quick enough. He took up a drachm bottle of nux vomica 30th globules and has not had another headache to this date.

CASE 2. September 16, 1901. Mrs. R., at fifty-five; married; fleshy; always well until a month ago, when she began to have decided vertigo, upon first retiring. Everything got black before the eyes, and the bed seemed to turn over and over, the first five minutes after lying down at night. Did not have same experience when lying during the day. Vertigo better after being recumbent a while, to be renewed if she turns on right side. Vertigo always accompanied by feeling of great congestion of head. No ear trouble present. Treatment: Cocculus 6x, four times daily. September 19. No improvement. Remembers getting overheated during past summer, while ironing. Changed to bryonia 6x, every two hours. Improvement at once. Patient practically well at this writing.—*Clinique*, Nov. 15th, 1901.

Gleanings from Contemporary Literature.**REFLEX ACTION AND INSTINCT.**

BY W. BENTHALL, M.B.

In the Paris Journal of anatomy and physiology of 1869 there was reported by Robin an experiment on the body of a criminal whose head had been removed an hour previously, at the level of the fourth cervical vertebra. The skin around the nipple was scratched with the point of a scalpel. Immediately there ensued a series of rapid movements in the upper extremity which had been extended on the table. The hand was brought across the chest to the pit of the stomach, simultaneously with the semi-flexion of the forearm and inward rotation of the arm, a movement of defence, as it were.

Probably none of us have seen quite so impressive an illustration of reflex action as the above, but most of us have watched the experiment in which a frog, having been decapitated and a drop of acid applied to its skin, the foot of the same side is brought up to wipe away the acid, and if this foot be cut off after some ineffectual efforts and a short period of hesitation, the same action will be performed by the foot on the opposite side. These symptoms of apparently purposive action on the part of a brainless body have always struck me as most strange.

Some four years ago I had the privilege of reading to you a paper on memory, from which I will now quote: "When we attempt to acquire some new feat of manual dexterity, involving a series of combined muscular movements, such as a conjuring trick, we find that, when first attempted, each movement has to be thought out, and the whole is effected with difficulty. Every time that the process is repeated the action becomes more easy; each movement of the muscles involved follows its predecessor, with greater readiness, and at last the trick becomes apparently one action, is performed without thought, and may be said to be automatic. The nerve structures involved have acquired a perfect memory of what is required of them; each takes up its part at the proper moment, and hands on in succession an intimation to its neighbor that it is time to transmit the expected impulse. Nerve centers have been educated. An organic memory has been established."

I went on to give instances in which, by frequent practice, actions had become so habitual as to take place on the application of the stimulus without the will of the individual, and even contrary to his wish. I gave as an illustration the story of the old soldier who was carrying a pie down the street, when some one mischievously crying "Attention!" down went the soldier's hands to his trouser's seams, and down went his dinner in the mud.

Let us apply this effect of constant practice to the case in question. The frog has a smooth, soft skin, unprotected by hair or scales. His hunts are stagnant water, which swarms with injurious insects and other enemies;

or the banks of ponds and streams abounding in sticks and stubs. From the time when the first progressive tadpole protruded his incipient legs, the race of frogs has been brushing away irritating substances. The nerve cells of their spinal cords have established such relations that, whenever a sense of irritation is conveyed to sensory cells, motor cells in connection are brought into action, and a complicated muscular movement follows, without the necessity of the interference of the will.

We may compare the association of nerve cells in the spinal cord to a group of men highly drilled in particular evolutions. Each individual cell of the group maintains relations with others near it by some one or more of its many arms. Upon the receipt of the intimation through sensory nerves and cells that there is something burning a particular portion of the frog's skin, motor cells, accustomed to act with these sensory cells, send out messages to particular muscles. If the message is responded to, if the foot comes up and the offending particle is brushed away, the stimulus and the effort cease. If the stimulus still goes on, other cells which supply accessory muscles are called into play. If this effort to remove the offending matter is vain, and the irritation still goes on, the stimulus is passed on to other cells, which have in an emergency previously been in the habit of assisting; the stimulus thus travels to the opposite side of the spinal cord, and the other leg now comes up to the point required.

It is the effect of drill, of practice, in the forgotten past. I am aware that in making this statement I am assuming the inheritance of acquired powers—an assumption directly in opposition to the views of Weismann, who maintains that no powers acquired during the lifetime of the individual are transmitted to the progeny.

The development of the reflexes and instincts which we shall refer to, will be seen to be of such importance to the maintenance of the life of the individual or to the procreation of its race that the slow and gradual formation of nervous connections can probably be explained by the Weismann theory; but for our purposes to-night the assumption of the inheritance of acquired powers enormously increases the ease with which we can understand their development.

The idea of this paper is, therefore, that, as in the *individual*, constant habit causes in time such a free connection between nerve cells as to facilitate the passage from cell to cell of a particular stimulus until the action follows the stimulus automatically, so in the *race* a particular response to a particular stimulus has been repeated so often that the connection has become congenitally perfect, has become in fact what we know as a reflex. And, further, that the frequent repetition of particular actions under similar stimuli have so influenced the *intelligent* actions of the animal, that *they* also have become engrafted upon the nerve system, and recur under the influence of similar stimuli in an automatic manner; the result of these reactions of the intelligence to a particular stimulus being what we know as *instincts*.

The great advantage of a reflex is the certainty and usually the rapidity with which it acts. The response to the stimulus does not have to travel round through the brain. It takes a short cut. With imperfect reflexes the animal is at the mercy of its surroundings. Nature does not pass imperfect work. The eye reflexes, for instance, have been developed by constant practice. If through their failure an animal were partially blinded, some self-constituted factory inspector in Nature's workshop would soon get on the blind side of that animal, and there would be no chance of its perpetuating its failings. If the cough reflex failed, some septic fly would quickly start a fatal pneumonia.

Assuming that all reflexes have been developed by practice, it follows that our own are not merely aids to the diagnosis of disease at the hands of the physician, but are now, or have been, of use.

A year or two ago, in the *British Medical Journal*, there was a very interesting description of the strength of the reflex grip of the newly-born infant, this being sufficient to maintain the weight of the child for some minutes while hanging from a stick. This the writer attributed to the necessities of a time before perambulators, when a child had to hang on for bare life to its mother's hair or clothes. The inward-turned feet of the newly-born child and the plantar reflex point to a time when the feet were used for climbing and grasping.

Many of the superficial reflexes were probably developed to get rid of flies and other irritants which must constantly have troubled the naked body. The reflex action exhibited by the decapitated body, described at the commencement of this paper, was attributed by the observer to an attempt at self defense. I think it was more probably an attempt at scratching, an act which was probably habitual in our hairy ancestors, as it is now in our poor relations at the Zoo—a movement, in fact, strictly analogous to the movement of the frog's foot, incited by the irritation of the acid. To assume that there was an intention of defense in the action imports into the movement an element of consciousness for which, in the absence of the brain, we have no warrant; and this brings us to the question of instincts, which have been defined as reflex actions into which an element of consciousness has been imported.

I will endeavor to trace an ascending scale of instincts showing their dependence on reflex excitation. A newly-born infant has to be placed to the breast; it then seizes the nipple with its lips and sucks. There is little difference between the reflex action incited by the contact of the maternal nipple with the infant's mouth and the cough or sneeze-reflex; both are complicated actions of many groups of muscles. In the one case spasmodic; in the other, rhythmical. The young of the rabbit, born blind and helpless, muzzles about till it finds a nipple, and then takes its hold. The lamb, calf, or fawn, guided by sight and smell, seeks its mother's teat. In each of these cases a stimulus is required, either of touch, sight, or smell. Without the stimulus the experiment fails.

Fawns are peculiarly precocious. From the first they show a tendency to crouch and hide on the approach of danger. The following is an extraordinary instance of combination of maternal and infant instinct :

"I have had frequent opportunities," says the "Naturalist in La Plata," "of observing the young from one to three days old of the *Cervus Campes- tria*, the common deer of the Pampas, and the perfection of its instincts at that tender age seems very wonderful in a ruminant. When the doe with fawn is approached by a horseman, even when accompanied by dogs, she stands perfectly motionless, gazing fixedly at the enemy, the fawn motionless by her side, and suddenly, as if at a preconcerted signal, the fawn rushes away from her at its utmost speed, and going to a distance of 600 to 1,000 yards, conceals itself in a hollow in the ground or among the long grass, lying down very close with neck stretched out horizontally, and will thus remain until sought by the dam. When very young it will allow itself to be taken, making no further effort to escape. After the fawn has run away, the doe still maintains her statuesque attitude, as if to await the onset; and when, and only when, the dogs are close upon her, she also rushes away, but invariably in a direction as nearly opposite to the fawn as possible. At first she runs slowly with a limping gait, and frequently pausing as if to entice her enemy on, like a partridge, duck, or plover when driven from its young; but as the dogs begin to press her more closely her speed increases, becoming greater the further she succeeds in leading them from the starting point."

In considering this case we have to remember that the deer is, as a rule a woodland animal, and that its fawn, while feeble, crouches under cover, of which there is plenty within immediate reach; but the deer of the Pampas lives on rolling prairies, where the only cover is the isolated tufts of Pampa grass. While therefore, instinct to crouch is sufficient for the fawns of most deer, crouching in the immediate neighborhood of the surprise would be useless in the open ground of the Pampas; and this artful combination of tactics has doubtless been developed by practice.

In birds we get even more marked differences in connate powers and instincts, from the naked young of the sparrow, which is nearly as helpless as the human baby, to the newly-hatched chicken, which is a regular little man-about-town at once. The habits of the latter have been closely studied. Hatched out in an incubator, and deprived of all maternal instruction and example, he quickly begins to peck at all small objects, with a preference for moving ones, and from the first shows an almost perfect power of estimating distance and direction, which is very marvellous when we consider the great number of muscles which have to be co-ordinated in the act.

The late Mr. Douglas Spalding placed beyond question the view that all the supposed examples of instincts may be nothing more than cases of rapid learning, imitation, or instruction, but also proved that a young bird comes into the world with an amount and a nicety of ancestral knowledge

that is highly astonishing. Thus, speaking of chickens which he liberated from the egg and hooded before their eyes had been able to perform any act of vision, he says that on removing the hood, after a period varying from one to three days, "almost invariably they seemed a little stunned by the light, remained motionless for several minutes, and continued for some time less active than before they were unhooded. Their behavior was, however, in every case conclusive against the theory that the perceptions of distance and direction by the eye are the result of experience or of associations formed in the history of each individual life. Often, at the end of two minutes, they followed with their eyes the movements of crawling insects, turning their heads with all the precision of an old fowl. In from two to fifteen minutes they pecked at some speck or insect, showing not merely an instinctive perception of distance, but an original ability to judge and to measure distance with something like infallible accuracy. A chicken was unhooded when nearly three days old. For six minutes it sat chirping and looking about it; at the end of that time it followed with its head and eyes the movements of a fly twelve inches distant, at twelve minutes it made a peck at its own toes, and the next minute it made a vigorous dart at the fly, which had come within reach of its neck, and seized and swallowed it at the first stroke; for seven minutes more it sat calling and looking about it. For about thirty minutes more it sat upon the spot where its eyes had been unveiled without attempting to walk a step. It was then placed on rough ground within sight and call of a hen with a brood of about its own age. After standing chirping for about a minute, it started off toward the hen, displaying as keen a perception of the qualities of the outer world as it was ever likely to possess in after life. It never required to knock its head against a stone to discover that there was no road there. It leaped over the smaller obstacles that lay in its path and ran around the larger, reaching the mother in as straight a line as the nature of the ground would permit. This, let it be remembered, was the first time it had ever walked by sight."

In this experiment each movement of the chicken appears to have been started by an external stimulus. It pecked at the flies which it saw. It jumped or evaded the objects which it saw in its path. It remained stationary until its hereditary tendencies were stimulated by the sound and sight of the old hen in its neighborhood.

Mr. Spalding again says: "The art of scraping in search of food, which, if anything, might be acquired by imitation, is nevertheless another indubitable instinct. Without any opportunities of imitation, when kept quite isolated from their kind, chickens began to scrape when from two to six days old. Generally the condition of the ground was suggestive, but I have several times seen the first attempt, which consisted of a sort of nervous dance, made on a smooth table." Mr. Spalding, however, does not seem to have seen them scrape unless the ground was suggestive, and Dr. Allen Thompson hatched out some chickens on a carpet, where he kept

them for several days. They showed no inclination to scrape because the stimulus applied to their feet was of too novel a character to call into action their hereditary instinct ; but when Dr. Thompson sprinkled a little gravel on the carpet and so supplied the appropriate or customary stimulus, the chickens immediately began their scraping movements. Here, again, we see the hereditary instinct requiring a local stimulus to bring it about.

Mr. Spalding again says : " A young turkey, which I had adopted when chirping within the uncracked shell, was on the morning of the tenth day of its life eating a comfortable breakfast from my hand, when the young hawk in a cupboard just behind us gave a shrill chip, chip, chip. Like an arrow the poor turkey shot to the other side of the room, stood there motionless and dumb with fear, until the hawk gave a second cry, when it darted out at the open door right to the extreme end of the passage, and there, silent and crouched in a corner, remained for ten minutes. Several times during the course of that day it again heard these alarming sounds, and in every instance with similar manifestations of fear." Generations of young turkeys must in their native home have had cause to dread the cry of birds of prey ; and the hereditary lesson had been well learned.

A water-bird was reared from the egg by another observer. It would swim freely, but he could not get it to dive by any means which he tried. One day while watching it in the water, a dog suddenly appeared on the bank. The necessary stimulus was applied ; the hereditary reflex was set in action, and in the twinkling of an eye the bird had dived.

Handed down from generation to generation as these instincts have been and impressed upon their owners by the imperative law that failure to inherit an instinct or a reflex meant death to the degenerate, these reactions persist long after they have failed to be of use.

As Dr. Louis Robinson has pointed out, the horse roamed in a wild state over plains of more or less long grass and low bushes. When a horse is alarmed, he throws up his head to get as wide a view as possible. The cow, on the other hand, keeps her head low, as if to peer under the boughs which covered the marshy grass of her jungle home. The horse's chief danger lay when, as he approached a stream to drink, he was liable to be sprung upon by a lurking lion ; and to this day the two things that a horse dreads most are the rustling in bushes or reeds by the roadside and the wheelbarrow or tree-stump which his imagination depicts as a crouching enemy.

The dog once formed his lair in rough stuff, and now, when approaching sleep gives the accustomed stimulus, our pet dogs turn round three times upon the hearthrug to smooth down imaginary grass stubs. As an instance of an instinct which by its persistence under altered circumstances has become actually prejudicial, I may give the case of some shore-birds which had for many years nested upon flats covered with pebbles. As long as the pebbles remained, the eggs, which closely resembled them in markings, were rendered inconspicuous, but as the sea receded and grass grew, the

pebbles became few and far between. The birds still, however, kept to their haunt, and actually collected pebbles around their eggs, thereby rendering their nests the more conspicuous.

In domestic fowls the habit of cackling as soon as they have laid an egg would certainly be detrimental to a wild race, and Hudson makes some interesting remarks on the modified habit in a semiferal race. The Creolla fowls, descended through three hundred years from the fowls introduced by the early settlers in La Plata, are much persecuted by foxes, skunks, etc., ever on the lookout for their eggs or themselves. These fowls in summer always lived in small parties, each party composed of one cock and as many hens as he could collect—usually three or four. Each family occupied its own feeding-ground, where it would pass a greater portion of each day. The hen would nest at a considerable distance from the feeding-ground, sometimes as far as four or five hundred yards away.

After laying an egg she would quit the nest, not walking from it as other fowls do, but flying, the flight extending to a distance of from fifteen to about fifty yards; after which, still keeping silence, she would walk or run, until, arrived at the feeding-ground, she would begin to cackle. At once the cock, if within hearing, would utter a responsive cackle, whereupon she would run to him and cackle no more. Frequently the cackling call-note would not be uttered more than two or three times, sometimes only once, and in a much lower tone than in fowls of other breeds. If we may assume that these fowls in their long semi-independent existence in La Plata have reverted to the original instincts of the wild *Gallus Bankiva*, we can see how advantageous the cackling instinct must be in enabling the hen in dense tropical jungles to rejoin the flock after laying an egg, while if there are egg-eating animals in the jungle intelligent enough to discover the meaning of such a short subdued cackle, they would still be unable to find the nest by going back on the bird's scent, since she flies from the nest in the first place! It is obvious that while this form of cackling is useful, excessive cackling would in a state of nature lead to its own suppression.

We may suppose that as the wild fowl became more and more closely domesticated, the eggs of the greater cacklers were more rapidly found and preserved by their mistresses, and this tended to increase the tendency to cackle; while in the half-wild fowls of settlers who had plenty to do besides looking after their poultry, there was a gradual reversion to the wild type by the elimination of the eggs of loud cacklers when not rapidly retrieved.

Birds which nest within a short distance of the ground display, as a rule, great skill in concealing their nests, and are very conservative in type. How it is that one chaffinch's nest is so like another's?

Gregarious birds like rooks have opportunities for learning by imitation, and may thus have lost some of their spontaneous skill. I have read somewhere that, when rooks were introduced into the Antipodes, young birds having been selected for transportation, they were found, when the breed-

ing season came round, to be at fault, and finally imitated the nest of some native bird; but chaffinches build apart from one another; how then, do they get their nests so nearly alike? A great observer has suggested that this is due to recollection on the part of the nesting pair of the home in which they were reared. This explanation does not commend itself to my mind, and is refuted, if not by the instance of the rooks just quoted, by the fact that tame canaries hatched in a nest of felt will when they themselves breed, use moss for the foundation of their nest, and hair as a lining, just as a wild bird would do, although, as they build in a box, the hair alone would be sufficient.

If you want examples of what pure instinct can do, go to the insect world. There you get them in infinite variety. Hatched from the egg long after the death of the mother, the majority of insects have to depend entirely on the duly ordered reaction of their nervous organisms to stimuli similar to those which have for ages incited their forerunners.

The bot of horses has been hatched from the egg inside the stomach of its host. After some nine month's residence in the intestines, it is passed with the feces and subsequently becomes the bot-fly. Until it becomes a perfect insect it has never seen the outside of a horse, and yet, as soon as it sees one, it knows exactly where to deposit its eggs in a position from which they can be licked off and swallowed in their turn. The sight and perhaps the smell of the horse is sufficient to inspire the hereditary desire to deposit eggs in a particular spot. If the stimulus and its reaction were insufficient, that particular bot-fly would cease to propagate.

The garden spider, again, hatched from an egg laid the previous autumn, brings an enormous amount of hereditary skill into the vicissitudes of its life. It selects its site, builds its web, adapts it according to the most approved plans to fortuitous circumstances, and distinguishes between harmless flies and dangerous wasps with an innate cunning which is an exact replica of the actions of the last year's brood. The nest of the trap-door spider, too, is quite as wonderful a production as the nest of any bird.

Caterpillars, when they have reached their full growth, display great skill in selecting appropriate hiding places in which to pass into the chrysalis form, and those which weave cocoons do so in recognized stages. Huber has described one which makes, by a succession of processes, a very complicated hammock for its metamorphosis; and he found that if he took a caterpillar which had completed its hammock up to say the sixth stage of construction, and put it into a hammock completed only to the third stage, the caterpillar did not seem puzzled, but completed the fourth, fifth and sixth stages of construction. If, however, a caterpillar were taken out of a hammock made up, for instance, to the third stage, and put into one finished up to the ninth stage, so that much of its work was done for it, far from feeling the benefit of this, it was much embarrassed, and forced even to go over the already finished work, starting from the third stage which it had left off at, before it could complete its hammock. In this experiment

it would appear that each instinctive action calls other actions in definite order, and unless the proper sequence is maintained, the intelligence of the insect is unequal to bridging the gap.

• Now let us apply the facts and inferences aforesaid to the nesting of the chaffinch. We have seen how habits acquired during the lifetime of the individual impress themselves upon the nervous connections, until, when the accustomed stimulus is applied, they become quite independent of the will. • We have seen how certain reflex phenomena which are necessary for the life of the individual have, through congenital connections, become so automatic that they take place whether the brain is present or not. We have seen how habits of wild animals have, through similar nervous bonds, been handed down to tame descendants long after the said habits were useless and even detrimental. We have noted that ancestral habits may lie in abeyance until some perhaps unexpected stimulus arouses them—for instance, the scraping of chickens when placed upon gravel, or the diving of a water-bird upon sudden fright. We have ascertained that many of these instincts are certainly not due to instruction by older animals, but are purely spontaneous; that in insects these spontaneous actions are often most complicated, and are sometimes *not only* carried out in definite order, as in the weaving of their cocoons, but *cannot* be carried out except in that definite order.

The inference I draw is that the nest-building of the chaffinch is due to a succession of reflexes. You remember that when Alice was wandering about in Wonderland, she was continually coming upon medicine-bottles, marked "Drink me," or upon pieces of cake, marked "Eat me." You remember that when Alice obeyed these directions strange things happened. Alice was able to decipher her labels by the result of long and painful study in her nursery. Had they been written in the Cuneiform character, though perhaps perfectly intelligible to another, they would have conveyed nothing to her. The nervous system of the chaffinch has been educated by generations of hereditary experiences, and when the newly-wedded chaffinch pair start upon their housekeeping, they see in their mind's eye, upon some suitable site, a label marked "Build here"; they go through the stages of their architecture much as the caterpillar spins the different stages of its cocoon, each stage suggesting its successor; and each twig, hair, or feather which they use, bears upon it a label, "Use me next."—*Scientific American Supplement*, November 16, 1901.

HOW TO STUDY MATERIA MEDICA.

By T. L. BRADFORD, M.D.

How shall I ever understand the *Materia Medica*? How study it intelligently? What did Dr. Henry N. Guernsey mean when he said of a case that the genius of the disease and the remedy did not correspond?

These are questions often asked by the medical student. Of course, my friend, you understand the homœopathic laws of proving; the means by which the symptoms of the many drugs used by our School are first collected. Now you wish to discover some method by which you may become familiar with the more commonly used remedies, without the mind getting tangled in a labyrinth of many symptoms. For it is indeed discouraging to the neophyte to look at the immense record of the ten volumes of provings collected by Dr. T. F. Allen and his editors, and known as Allen's *Encyclopædia*. Then there is Hering's *Guiding Symptoms*, also in ten large volumes; the *Materia Medica Pura*, of Hahnemann; Jahr's voluminous volumes known as the *Symptomen Codex*; Mure's *Brazilian Provings*; Metcalf's *Provings*; Lippe's *Text Book*; Hering's *Condensed Materia Medica*; Farrington's *Clinical Materia Medica*; Hughes's *Pharmacodynamics*; Hoyne's *Clinical Therapeutics*; the *Materia Medica* of Teste, Hartmann, Gross, and others. And when the student looks at these collections of drug results it is little wonder that he becomes discouraged.

Now Hahnemann left plain directions to his followers for finding the true homœopathic similimum.

Note down carefully all the symptoms of the case, letting the patient do the talking, and if possible do not ask leading questions. Then by means of an intelligent use of the repertory find the remedy that is capable of producing the majority of these symptoms, and give it in a dose just large enough to complete the cure without producing a medicinal aggravation.

But to do this one must know something of the remedies and the symptoms produced by each upon the healthy. Fortunately, in the symptoms of each remedy are to be found certain well marked, distinct, and peculiar symptoms characteristic to the remedy in question and not to be found in any other. These symptoms have been called keynotes, and to these we may look for sure results.

They have been obtained by verifying, over and over, some peculiar symptom and noting that the remedy containing that symptom never failed to cure a case in which the symptom was present. These verified symptoms, of which there are but a few belonging to each remedy, are known as characteristics or keynotes. Now provided that the student becomes familiar with these keynotes, of even the polychrests, as the more commonly used medicines are called, it will be comparatively easy for him to add to this knowledge from time to time, until he has a fair insight into the wonderful treasures of the homœopathic *materia medica*. And by this method he may learn the important symptoms peculiar to each remedy so

that a picture of the remedy is formed in the mind, and a duplicate disease picture will certainly suggest the proper drug picture. Then will the genius of the disease and the remedy correspond.

It is not to be supposed that the student on leaving college will be a master of materia medica. That is the work of a life time. But there need be no confusion or uncertainty in its study while he is in college if this plan be followed: Briefly memorize the keynotes of the *Materia Medica* and he will have at hand a collection of guides to the further study of the different remedies.

The great mistake is that the student looks at the great mass of symptoms of which our *Materia Medica* is composed, sees that many symptoms under the different remedies are similar to each other, and becomes confused in selecting the right remedy. Yet in the pathogenesis of each remedy certain symptoms appear that are not to be found in any other. These are the ones to be first mastered. And the student must not try to learn too much at once.

The greatest accomplishments of man are the results of daily study. It is like building a house, brick by brick, and in a little while a massive and strong wall results.

Let each keynote be but one isolated brick in the wall of knowledge of *Materia Medica*, and soon the bricks will fit themselves nicely into place and the usefulness of each be understood. For this study the following books will be of value to the student:

Burt's *Characteristic Materia Medica*; Hawkes's *Characteristics*; Hering's *Materia Medica Cards*; H. C. Allen's *Keynotes*; the two books lately issued by E. B. Nash—*Regional Leaders* and *Leaders in Homœopathic Therapeutic*; Dewey's *Essentials of Homœopathic Materia Medica*.

Let the student take Allen's *Keynotes* (Boericke & Tafel), or Hawkes's *Characteristics*, select a remedy and commit to heart each keynote under that remedy. After this has been done let him read up the remedy in Nash's *Leaders in Homœopathic Therapeutics*; in Dewey's *Essentials of Homœopathic Materia Medica*; and to pursue the study further read the careful analytic comparisons in Farrington's *Clinical Materia Medica*. While he is doing this he is to think of no other remedy. Get the keynotes and important symptoms of one remedy. By the time he has followed this course with these books and thought over the remedy and symptoms he will find a very perfect picture of the remedy in his mind, and one not easily forgotten. Then another remedy is to be taken, and so on. As the knowledge of the keynotes increases comparisons will be instituted involuntarily.

And let the student ask himself, what is the reason of a keynote? Why will *Aconite* produce and consequently cure great inconsolable anxiety, fear of death? Why does the *Aconite* patient tingle all over, have fainting spells, become worse on arising? There is reason for it, and that reason understood will greatly assist in the comprehension of the keynotes of *Aconite*. And so we reach the genius of *Aconite*—Capillary Congestion.

As the student becomes familiar with a number of remedies, distinctions may be made between the symptoms common to several. Thus: *Arsenic* and *Phosphorus* both produce vomiting, worse after drinking water. But the man who knows the keynote of both these remembers that the *Arsenic* patient vomits just as soon as the water is swallowed, the *Phosphorus* patient only after it has become warm in the stomach. Draw these distinctive lines carefully; do not be discouraged by slow progress; after the first few remedies are mastered knowledge and interest will rapidly increase. And be sure this careful knowledge, this power to discriminate between remedies, will come in very handy by the bedside of some poor sufferer and will prevent the necessity for the anodyne, or the palliative, or any of the other makeshifts of the lazy doctor. I say, and this is what Guernsey taught, and Lippe, and Hering, and Farrington; I say that if the student will master Hawkes, and Allen, and Burt, and Nash, while he is in college he need fear neither the examination in *Materia Medica* of the college or the State Board, and he will acquire a certainty in prescribing for disease that will go far to make him a homœopath who practises what he preaches and who has no need for eclectic and uncertain measures.

And a very little time each day throughout the college life will be time enough to do this. And it is well to bear in mind that *Materia Medica* should be one of the most important studies of the homœopathic physician. Hawkes's book can be carried in the pocket and so can that of Nash, and either is much better for a student's pocket companion than "Billy Baxter's Letters."

Now, when we know the symptoms that a remedy will produce it becomes easy to decide in what form of disease it is useful. On seeing a certain disease one naturally thinks of a certain class of remedies. Usually in questioning the patient some keynote presents itself and the remedy containing it comes at once to mind, if the doctor is familiar with the keynotes. He can even greatly surprise the patient by telling him how he feels if he follows the pathological keynote-symptom. The finger post set up by some pathological condition to point unerringly to the remedy that will produce that condition. For there is a reason for every keynote. A pathological reason; we may not understand it, but it is there.

Presupposing a human body in perfect health, one in which all the physiological functions are acting normally, it must be that whatever is taken into the body through mouth, nose or skin that is not an aid to healthy nourishment must be an injury to the normal action of the organs of life; must, in a word, disturb the perfect equilibrium of health.

The effects of certain substances known as poisons are analagous to certain abnormal states arising from unknown cause, called disease. It must be true that every thing not useful in nutrition must be detrimental to perfectly normal life. The first effort of nature is to eliminate such a thing from the system as waste. In direct proportion to the noxiousness of the disturbing substance is the gravity of the effort to get rid of it. In this

effort certain symptoms may be observed, and nature uses the same symptoms in every case to rid herself of the same poison.

A man who takes a dose of *Arsenic* will experience a marked effect of discomfort dangerous in proportion to the amount of the poison taken, so that to one familiar with these always present symptoms that result from *Arsenic* when introduced into the human body it is possible to understand that it is really *Arsenic* that is making the man ill.

Each and every substance that produces abnormal effects upon the system of man will always produce those effects in every man subject to certain personal idiosyncrasies. While many sensations resultant from poison differ in different men, yet there always must be in all cases well-marked symptoms to point like finger posts to the substance that has produced them.

Presupposing of each morbid state not produced by the direct action of a drug or poison, that there is a certain drug or poison that is capable of producing a similar state, then the important symptoms, or keynotes, of the drug must correspond to the important symptoms produced by disease.

A man is ill, he has vomiting and diarrhoea, thirst, prostration, weakness; I do not know what made him ill. But I do know that *Arsenic* will produce a similar condition when it is given to a well man. Now what is the pathological condition when *Arsenic* is given? Irritation, congestion, inflammation of mucous surfaces of the digestive organs. When these conditions result from some unknown cause I see that they are the same that the *Arsenic* will produce. The keynotes of *Arsenic* are present, vomiting, thirst, diarrhoea, and they tell me as plainly as possible here is inflammation of the intestines and stomach, gastritis, enteritis. *Arsenic* will produce it. *Arsenic* will cure it.

Thus the keynotes or important symptoms produced by a drug must always correspond to the pathological symptoms of the disease that the drug in question will produce.

In hunting for the keynote we must find the disease.

It is absurd to say that the man who depends on keynotes does not understand the pathological changes going on in a patient. He must of necessity, for from the keynotes he must be able to determine the remedy that will produce the keynotes and also the pathological condition similar to the disease present.

Hahnemann said that all that it was important to do was to cure the patient by prescribing for the symptoms. What are symptoms but manifestations of the morbid state known under some dogmatic name? Find the drug producing the symptoms or nosological state and we cure according to the law of similar.

With the keynotes as a guide the other minuter symptoms may be also discovered. The important keynote may be a very peculiar one, but whatever it is it certainly has a reason for being; back of it there is the pathological change producing it. And although we can not always explain the

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EXPERIMENTAL DEMONSTRATION OF THE
ACTION OF INFINITESIMAL DOSES.

BY DR. P. JOUSSET.

(Translated from *L'Art Medical* of January).

AFTER the works of *Materia Medica* of Hahnemann and of his disciples; after the applications of the law of similitude and of the attenuation of viruses in the treatment of diseases by Pasteur, it would seem that the moment had come to realise, on the authoritative teachings of Hippocrates, a truly positive therapeutics,—therapeutics which will be not of one school or of one sect, but therapeutics which is really open to all, and can reunite all physicians who profess to be disciples of the experimental method. But a problem remains unsolved, and this is, that of the *action of infinitesimal doses*.

You tell me that this problem has been solved since more than a century by clinical experience; but I reply that clinical experience has no value except to physicians who are already convinced. You speak to our adversaries of clinical proof a thousand times repeated of the action of infinitesimal doses; they will reply,—they are only coincidences or illusions, and they will go even beyond.

As for experiments instituted upon healthy men by some of our confrères for the demonstration of the action of infinitesimal doses, no one will contradict me when I say that these experiments, very few in number, have never produced other than fugitive, variable, inconstant phenomena and incapable of carrying conviction.

The laboratory alone can furnish the solution of the problem. How? Because the experiments, instituted according to the rules of the experimental method, produce phenomena which any one is sure to reproduce any time when acting under the same conditions.

The experiments, which we are going to report, are the first of a series which will demand months before they can be completed. We have commenced with a known subject, the action of silver upon the development of an alga, the *Aspergillus Niger*.

Thursday, 19th December 1901—We have sown with *Aspergillus Niger* six boxes of Petri containing each 40 cubic centimetres of the liquid of Raulin.

Five of these boxes received five centigrams of a trituration of metallic silver.

No. 1 received the first centesimal trituration; No. 2 the second; No. 3 the third; No. 4 the fourth; No. 5 the sixth trituration. No. 6 did not receive any preparation of silver and was kept for proof or control.

All the boxes were kept in a stove at a temperature of 35° C.

20th December, second day. The proof box has already put forth a very large quantity of mycelium. The sixth trituration scarcely presented any traces, and the fourth only a slight turbidity.

In the evening, the culture in the proof box had grown considerably, in the sixth trituration the culture had augmented a little; and traces of mycelium could be seen in boxes containing the third and the fourth triturations.

21st December, third day. The proof box was filled all over with mycelium which commenced to sporulate. The bottles containing the sixth, the fourth and third triturations developed mycelium in the proportion of the triturations employed, but none approached the proof box and in none was there sporulation.

In the box containing the second trituration three small masses of mycelium of the size of a pea could be seen. And the box which had received the first trituration presented only little masses of smaller size.

22nd December, fourth day. The proof box was black with spores. The boxes containing the sixth and the fourth triturations had their mycelium augmented but did not present any spores.

The cultures were left at the temperature of the laboratory 20°C.

23rd December, fifth day. The proof box was covered with an abundant production of sporangia borne on very thick mycelium.

The box which contained the sixth trituration presented spores less abundant than the proof box and the mycelium did not cover the whole of its bottom.

The box containing the fourth trituration scarcely presented any black points. The boxes containing the third, the second, and the first had very slightly grown their mycelium and did not present any spores.

24th December, sixth day. The evolution continued to present differences already mentioned ; the third trituration has commenced to sporulate. The second and the first did not commence to do so till the seventh day of experiment.

The boxes were put back in the stove for dessication of the cultures, and on the 30th Dec., the 11th day of experiment, the dried cultures weighed as follows :

In the proof box...	...	...	...	16 grammes.
In the sixth trituration...	..	..	..	10 „
„ 4th	„	...	...	12* „
„ 3rd	„	...	...	3 „
„ 2nd	„	...	...	1 gr. 5
„ 1st	„	...	...	1 „

We repeat this is only the commencement of our work, but we have the pleasure to state that the sixth trituration of silver, that is to say, .000000000001 gr. of metallic silver, has an action, proved by the balance, upon the development of the *aspergillus niger*, whence we have proof, on the one side, of the action of infinitesimal doses on the phenomena of life ; and on the other, of the presence of our medicines in the sixth trituration.

The technique of these experiments were directed by the head of my laboratory, whose knowledge of natural history has been very useful on this occasion.

* This figure is evidently a mistake, It should certainly be less than 10, probably 8.—EDITOR, *Cal. J. Med.*

HAHNEMANN ON THE EFFECTS OF COFFEE.

[Though written so far back as 1803, the following observations on the effects of Coffee by the Founder of Homœopathy, may be read with profit even now. They have a perennial interest. Every one, who has the welfare of himself and of his fellowmen at heart, ought to be acquainted with them. We have given them here entire, especially in view of the threatened invasion of Indian homes, even of the poorest, by the growers of Tea, which is no less if not more injurious than Coffee. Our sincere and strong belief, which we declared before the Opium Commission, is that the money spent in Tea and Coffee, would be infinitely better spent, especially by the poor, in milk and other articles of food. The poor of India, at least, most of whom have scarcely means for one meal a day, cannot afford to indulge in these baneful civilized luxuries.—*EDITOR, Cal. J. Med.*]

In order to enjoy a healthy and long life, man requires foods which contain nutritious, but no irritating, medicinal, parts, and drinks which are either merely diluent, or diluent and nutritious at the same time, but which contain no medicinal and irritating component parts, such as pure spring water and milk.

In the way of accessaries to stimulate the taste, the only substances that have been found to be harmless and suitable for the human body are kitchen salt, sugar and vinegar, all three in small, or at all events, moderate quantities.

All other accessaries, which we term spices, and all spirituous and fermented liquors, bear a greater or less resemblance to medicines in their nature. The nearer they resemble medicines, the more frequently and the more copiously they are taken into our bodies, the more objectionable are they, the more prejudicial to health and long life.

•Most objectionable of all is the frequent use of purely medicinal substances of great power as articles of diet.

Among the ancients, wine was the only purely medicinal drink, but the wise Greeks and Romans at least never drank it without diluting it plentifully with water.

In modern times many more purely medicinal drinks and condiments have been added to our diet: snuffing and smoking tobacco, chewing tobacco and hemp-leaves, eating opium and

agarie, drinking brandy, several kinds of stimulating and medicinal beers, tea* and coffee.

Medicinal things are substances that do not nourish, but alter the healthy condition of the body; any alteration, however, in the healthy state of the body constitutes a kind of abnormal, morbid condition.†

Coffee is a purely medicinal substance.

All medicines have, in strong doses, a noxious action on the sensations of the healthy individual. No one ever smoked tobacco for the first time in his life without disgust; no healthy person ever drank unsugared black coffee for the first time in his life with gusto—a hint given by nature to shun the first occasion for transgressing the laws of health, and not to trample so frivolously under our feet the warning instinct implanted in us for the preservation of our life.

By continuing the use of these medicinal articles of diet (where-to fashion and example seduce us), habit gradually extinguishes the noxious impressions that they at first made upon us; they even become agreeable to us, that is to say, the disagreeable impressions their ingestion at first produced do not strike us so much as we go on using them, and their apparently agreeable effects upon our organs of sensation gradually become necessary to us. The ordinary run of mankind esteems even factitious wants as happiness, and gradually associates with their satisfaction the idea of relish.

Perhaps also, inasmuch as by their use we become to a certain degree sickly, our instinct tries from time to time at least to alleviate this indisposition occasioned by the continued use of these medicinal articles of diet, by means of the palliative relief which they are capable of affording to the malady produced from time to time by themselves.

*Chocolate belongs to the nutritious articles, when it is not too highly spiced; otherwise it is objectionable, or even hurtful.

†In proportion as the substances we call medicines can make the healthy body sick, so are they calculated to remove the abnormal states dangerous to life, which go by the name of diseases. The sole end of medicines consequently is, to change the abnormal, the morbid state, that is, to transform it into health. Used by themselves, and when no disease is present, they are absolutely hurtful things for health and normal life. Their frequent use as articles of diet deranges the harmonious concordance of our organs, undermines health and shortens life. A wholesome medicine for a healthy individual is a contradiction of terms.

In order to understand this proposition, we must take into consideration the fact that all medicines produce in the body conditions the opposite of one another. Their *commencing action* (*primary action*) is the direct opposite of their *secondary action*, that is, of the state they leave behind in the body when their primary action has ceased some hours.*

Most medicines produce, both in their primary and secondary action, disturbances in the healthy body and disagreeable sensations and pains, a certain set of these in their primary action and another opposite set in their secondary action, and even their prolonged employment excites no agreeable effects in the healthy individual.

Only the few medicinal substances that the refinement of a sensual world has chosen to introduce among articles of diet,† form in some degree, an exception to this, at least in their primary action. They possess the peculiar property, when continued to be used in moderation, to create in their primary action a sort of artificial exaltation of the ordinary state of health, an artificial exaltation of the life and almost only agreeable sensations, whilst the disagreeable effects their secondary action tends to develop remain for some time of little importance, *as long as the individual is pretty well in health, and leads in other respects a healthy and natural mode of life.*

To this small class of medicines introduced into our dietary belongs coffee, with its partly agreeable, partly disagreeable effects, both of which, strange though it may appear, are but little known.

Its irregular, unrestricted use in ordinary life, at almost all times of the day, its employment in such various strength and quantity, its preparation under the most dissimilar conditions, its general use by persons of the most various ages and constitutions, of the most different health and habits of life, deprives the observer of all means of seeing its action aright, and makes it excessively difficult to ascertain its true action, and thence to draw pure inferences. So a disk may be covered with the clearest characters and words, but all will be unrecognisable if the disk be

*For instance, to-day jalap powder purges, and to-morrow and the next day there follows constipation.

† These are, as before said, wine, spirits, opium, tobacco, tea, coffee, &c.

whirled round with great rapidity; in that case everything runs together, even to the eyes of the most sharp-sighted.

• It is only by accurate, prolonged, unprejudiced observation, as free as possible from all source of deception, and by carefully tracing back the phenomena to their cause, that we can obtain accurate knowledge respecting the most important of all beverages, coffee.

• Its primary action is in general a more or less agreeable exaltation of the vital activity; the animal, the natural, and the vital functions (as they are called) are artificially exalted by it during the first hours, and the secondary action that ensues gradually after the lapse of several hours is the opposite—disagreeable feeling of existence, a lower degree of vitality, a kind of paralysis of the animal, natural and vital functions.*

When a person unaccustomed to the use of coffee drinks a moderate quantity, or one accustomed to its use drinks an immoderate† quantity, for the first hours the self-consciousness, the feeling of his existence, of his life, becomes more lively. He gets a circumscribed redness of the cheeks, a redness which does not become gradually lost in the surrounding parts, but which • presents the appearance of a well-defined red spot. The forehead and palms of the hands become warm and moist. He feels warmer than before; he feels agreeably, yet uneasily warm. There occurs a kind of voluptuous palpitation of the heart, somewhat resembling that occurring during great joy. The veins of the hands swell. Externally also he is warmer to the feel than • natural, but this warmth never comes to the length of heat, even • after a large quantity of coffee (it sooner turns into general perspiration); none ever become burning hot.

•
* "When I awake in the morning," writes a genteel, consummate coffee-drinking lady, "I have the power of thinking, and the activity of an oyster."

† The expression *moderate* and *immoderate* must only be understood in a relative and individual sense; they cannot be defined by fixed magnitude and figures of universal acceptance. Thus a certain prince, H. C. v. C., reared in luxury, who is now dead, required for an allowance, every time he drank coffee, an infusion of fourteen ounces of the roasted bean, whereas ye meet with persons who are very strongly affected by a quarter of an ounce. Each person must fix his own standard according to his peculiar corporeal system. One can bear more than another. Moreover the whole series of agreeable symptoms of the primary action of coffee I have here described does not appear in everyone, at all events not all at once, but only one at a time, some in one, others in another, in this one more, in that fewer.

Présence of mind, attention, sympathy become more active than in the healthy natural state. All external objects appear to excite a feeling of pleasure, they take on, if I may be allowed the expression, a joyous varnish, and if the quantity of coffee taken was very great, they assume an almost over-pleasing lustre.* During the first hours the coffee drinker smiles contented with himself and with all external objects, and this property it was that mainly tended to make coffee a social beverage. All the agreeable sensations communicated are speedily increased to enthusiasm (though only for a short time). All sorts of disagreeable recollections, or disagreeable natural feelings cease during this kind of blessed fever.

In the healthy natural states of the human being, left to themselves, disagreeable sensations must alternate with agreeable ones; this is the wise arrangement of our nature. During the primary action of this medicinal beverage, however, all is delight, and even those corporeal functions which in the natural state of health are accompanied by an unpleasant sensation almost bordering on pain, are now performed with extreme ease, almost with a kind of pleasure.

In the first moments or quarters of an hour after awaking, particularly when this takes place earlier than usual, every one who is not living completely in a state of rude nature, has a disagreeable feeling of not thoroughly awakened consciousness, of confusion, of laziness, and want of pliancy in the limbs; it is difficult to move quickly, reflection is a labour.

But, see, coffee removes this natural disagreeable sensation, this discomfort of the mind and body, almost instantaneously; we suddenly become completely alive.

After completing our day's labour we must, in the course of nature, become lazy; a disagreeable feeling of weight and weariness in our bodily and mental powers makes us ill-humoured and

* If the quantity of coffee taken be immoderately great and the body very excitable and quite unused to coffee, there occurs a semilateral headache, from the upper part of the parietal bone to the base of the brain. The cerebral membranes of this side also seem to be painfully sensitive. The hands and feet become cold; on the brow and palms cold sweat appears. The disposition becomes irritable and intolerant; no one can do anything to please him. He is anxious and trembling, restless, weeps almost without cause, or smiles almost involuntarily. After a few hours, sleep comes on, out of which he occasionally starts up in affright. I have seen this rare state two or three times.

cross, and compels us to give ourselves up to the requisite rest and sleep.

This crossness and laziness, this disagreeable weariness of mind and body on the approach of natural sleep, rapidly disappears on taking this medicinal beverage, and a dispersion of sleepiness, a factitious liveliness, a wakefulness in defiance of nature occurs.

In order to live we require food, and see ! nature compels us to seek it and to replace what has been lost, by hunger, or gnawing uncomfortable sensation in the stomach, a tormenting longing for food, a quarrelsome crossness, chilliness, exhaustion, &c.

Not less uncomfortable is the feeling of thirst, nor is it less a wholesome provision of nature. Besides the longing desire for liquids which our body needs for its restoration, we are tormented by a dryness of the throat and mouth, a dry heat of the whole body, that to a certain extent impedes the respiration, a restlessness, &c.

We drink coffee—and see ! we feel but little or nothing more of the painful sensations of hunger, nor of the anxious, longing sensation of thirst. Genuine coffee-drinkers, especially those ladies addicted to its use, who are deprived of the opportunity of recovering from the bad effects of this drink by occasional exercise in the open air, experience little or nothing more of the real sensations of hunger and thirst. In this case the body is cheated of its nutriment and drink, and the cutaneous vessels are at the same time unnaturally forced to absorb from the atmosphere as much moisture as is requisite to carry on the functions of life. Confirmed coffee-drinkers pass much more urine than the quantity of fluids they drink. The most natural demands of nature are stifled. (Thus they gradually approach—thanks be to the divine beverage !—to the condition of the blessed spirits above ; a true commencement of beatification here below.)

The all-bountiful Preserver of all living beings, made the healthy man feel uncomfortable on taking exercise immediately after having satisfied his appetite with food ; this uncomfortable feeling was intended to compel us to leave off our business and to rest both the body and the mind, in order that the important function of digestion might be commenced undisturbed. A lassitude of body and mind, a constriction in the region of the stomach, a kind of disagreeable pressure, a fullness and tension in the abdomen,

&c., on taking exercise, remind us, when we attempt to exert our energies immediately after a meal, of the rest that is now required—and if we attempt to exercise our thinking faculty, there occurs a lassitude of the mental powers, a dulness of the head, a coldness of the limbs, accompanied by warmth of the face; and the pressive sensation in the stomach, combined with a disagreeable sensation of tension in the abdomen, becomes still more intolerable, proving that exerting the mental powers at the commencement of the process of digestion is more unnatural and more hurtful than even exertion of the body.

Coffee puts a sudden stop to this lassitude of mind and body, and removes the disagreeable sensation in the abdomen after a meal. The more refined gourmands drink it immediately after dinner—and they obtain this unnatural effect in a high degree. They become gay, and feel as light as though they had taken little or nothing into their stomach.

The wise regulator of our nature has also sought to compel us by disagreeable sensations to evacuate the accumulated excrement. There occurs an intolerable anxiety conjoined with a no less disagreeable feeling of straining, whereby all the agreeable sensations of life are put a stop to, and, as it were, swallowed up in it, until the evacuation is commenced. It is a necessary part of our nature that there should be some effort in the expulsion of the excrements.

But this has been provided against by the refining spirit of our age, which has sought to elude this law of nature likewise. In order artificially to promote and hasten the time required for digestion, which in the order of things is several hours, and to escape the anxious, frequently slowly increasing call to stool, the degenerate mortals of our times, who strain after enjoyment and have a childish dread of all uncomfortable sensations, find their means of escape in coffee.

Our intestines excited by coffee (in its primary action) to more rapid peristaltic movements, force their contents but half digested more quickly towards the anus, and the gourmand imagines he has discovered a splendid digestive agent. But the liquid chyme which serves to nourish the body can in this short time neither be properly altered (digested) in the stomach, nor sufficiently taken up by the absorbents in the intestinal canal; hence the mass passes through the unnaturally active bowels, without parting with more

than the half of its nutritious particles for the supply of the body, and arrives at the excretory orifice still in a half-liquid state. Of a truth a most excellent digestive agent, far surpassing nature!

Moreover, during the evacuation itself the anus is excited by the primary action of the coffee to more rapid dilatation and contraction, and the fæces pass out soft, almost without effort, and more frequently than in the case of healthy individuals who do not partake of coffee.

These and other natural pains and disagreeable sensations, which are a part of the wise ordering of our nature, are diminished and rendered almost unnoticeable by the primary action of coffee—and the disastrous effects of this are not perceived, or even dreamt of.

Even the sexual desire, which in our age has been exalted into the chief of all pleasures, is excited by the primary action of coffee more than by any other artificial means. As quick as lightning there arise voluptuous images in the mind from very moderate exciting cause, and the excitation of the genitals to complete ecstasy becomes the work of a few seconds; the ejaculation of the semen is almost irrestrainable. The sexual desire is excited by coffee from ten to fifteen years too soon, in the tenderest, immaturest age, in both sexes; a refinement* that has the most perceptible influence on our morality and mortality—not to speak of the earlier impotence that follows as a natural consequence*therefrom.

In an individual of very irritable temperament, or who has already been enervated by the copious use of coffee and a sedentary life, the effects I have mentioned appear in a still more prominent light. Every unprejudiced person must perceive in the corporeal derangements and sensations effected by coffee, something unnatural, an over-stimulation. An excessive sensitiveness, or a gaiety greatly disproportioned to the object of it, a tenderness almost partaking of a convulsive character, an inordinate sorrowfulness, a wit that is not altogether under the restraints of reason, an excessive distortion of the features approaching to caricature, under circumstances where a mere smile, a little joke, a slight perplexity, a moderate expression of grief or sympathy, would have sufficed.

* Enjoyment! enjoyment! is the cry of our age—quicker, uninterrupted enjoyment of life at whatever cost! and this object is to a certain degree attained by means of this beverage, that accelerates and squanders the vital power.

Even the muscles of the rest of the body exhibit an unnatural excessive activity—all is life, all is motion (though there may be but little cause for it) during the first hour after partaking of strong, or (to use the often inaccurate language of the world) *good* coffee. The ideas and the pictures of the fancy flow in rapid succession and in a continuous stream before the seat of the imagination and sensation in the brain—an artificially accelerated, artificially exalted life!

In the natural state we require some effort to remember clearly things long past; immediately after taking coffee the stores of memory spring, so to speak, into our mouth—and the consequence often is loquacity, hurried chattering, and letting things escape from our lips that we ought not to have spoken about.

Moderation and purpose are entirely wanting. The cold considerate earnestness of our forefathers, the firm steadfastness of will, of resolve, and of judgment, the endurance of the not rapid but powerful movements of the body, adapted to the object in view that used to constitute the original national character of the Germans—the whole sublime original stamp of our descent disappears before this medicinal beverage, and changes into over-hasty disclosures, hurried resolves, immatured judgments, frivolity, changeableness, talkativeness, irresolution, flighty mobility of the muscles, without the production of any durable impression, and theatrical behaviour.*

We well know that in order to revel in the dreams of fancy, in order to compose frivolous novels, and light, playful witticisms, the German must drink coffee the German lady requires strong coffee in order to sparkle with wit and sentiment in fashionable circles. The ballet dancer, the improvisator, the conjuror, the juggler, the sharper, and the keeper of a faro-bank, all require

* Who can tell what enervating dietetic practices it was by which those admirable heroic virtues of patriotism, love of children, inviolable constancy, unshakable integrity, and strict fulfilment of duties (the well-known attributes of by-gone times) have in our days almost all dwindled down into paltry egotism? Likewise the single heroic crimes of the middle ages and of remote antiquity, the antagonists of those virtues, are now-a-days (by what enervating dietetic practices?) split up into petty intrigues, concealed trickeries and artifices, and distributed over myriads of individuals—compelling the uncorrupted person to exercise much caution every step he takes! Which is the more injurious, a single bomb-shell or a million of invisible hooks distributed every where to catch the feet of the unwary?

coffee, as likewise the fashionable musician for his giddy rapidity of execution, and the omnipresent fashionable physician, to enable him to rush through his ninety visits in a forenoon. Let us leave to these people their unnatural stimulant, together with its evil effects to their own health and the welfare of mankind!

But this much is at least certain,—the most refined sensualist, the most devoted debauchee, could have discovered on the whole surface of the globe no other dietetic medicinal substance besides coffee,* capable of changing our usual feelings for some hours into agreeable ones only, of producing in us for some hours rather a jovial, even a petulant gaiety, a livelier wit, an exalted imagination above what is natural to our temperament, of quickening the movement of our muscles to a kind of trembling activity, of sparing on the ordinary quiet pace of our digestive and excretory organs to double velocity, of keeping the sexual practice in an almost involuntary state of excitation, of silencing the useful pangs of hunger and thirst, of banishing blessed sleep from our weary limbs, and of artificially producing in them even a kind of liveliness when the whole creation of our hemisphere fulfils its destiny by enjoying refreshing repose in the silent lap of night.

Thus we despotically overthrow the wise arrangement of nature *but not without injury to ourselves!*

When the first transient effect of coffee has departed after a few hours, there follows gradually the opposite state, *the secondary action*. The more striking the former was, so much the more observable and disagreeable is the latter.

All persons do not suffer equally from the abuse of a medicinal beverage such as coffee is.

Our systems are so admirably arranged *that if we live agreeably to nature in other respects*, a few errors in diet, if they be not too great, are tolerably harmless.

Thus, for instance, the day-labourer or peasant in Germany drinks brandy, which is so pernicious in itself, almost every morning; but if he only take a small portion at a time, he will often attain a pretty considerable age. His health suffers little. The excellence of his constitution and his otherwise healthy mode of life counteract the injurious effects of his dram almost without letting a trace appear.

Now, if instead of brandy the day-labourer or peasant drink a couple of cups of weak coffee, the same thing occurs. His robust body, the vigorous exercise of his limbs, and the quantity of fresh air he inhales every day, repel the hurtful effects of his beverage, and his health suffers little or nothing in consequence.

But the bad effects of coffee become much more perceptible when these favourable circumstances are not present.

(To be concluded.)

* And to a certain extent tea also.

REVIEW.

Regional Leaders. By E. B. Nash, M.D., Author of "Leaders in Homœopathic Therapeutics," "Leaders in Typhoid." Boericke & Tafel, Philadelphia, 1901.

We have to apologize for the delay in noticing this book, especially as it, like its two predecessors, is eminently practical and sound.

The plan of the work is quite novel, ingenious, and very helpful to the memory. The symptoms are printed on the outer side of the page and the names of the several remedies are printed against them at the inner margin in such a way that it can be covered by an ordinary book mark. A beautiful aluminum mark is actually furnished with the book, saving the reader the trouble of making one for himself. "So the symptom or group of symptoms can be *guessed* at, if it is not known, and *known* by afterwards looking at it, if not correctly given. This helps to *fasten* it upon the memory." We are afraid the word "given" is here misleading. Naturally one would interpret the sentence "as given in the book," which the author does not mean. He evidently means "guessed at." The following specimen will show how the plan has been executed:

BONES.

Swelling of the bones; necrosis, especially of lower jaw.	} Phos.
Bone pains at night, or deep ulcers affecting the bones, after abuse of Mercury or syphilitic taint.	} Aurum met.
Bone pains at night; bones inflamed, mostly the ends.	} Lycop.
Scrofula when other remedies fail, rachitis, caries, necrosis, to reach the root of the evil and destroy the cause (Baruch).	} Therid.
Pain in the periosteum of the long bones, especially the tibia, increased at night in bed and damp weather; touch intolerable.	} Mez.
Bruises and other mechanical injuries of bones and periosteum.	} Ruta.
To be thought of in affections of the bones, when there is present great sensitiveness to the slightest touch, or even the slightest dressings.	} Asaf.
Exostosis of skull and other bones, with boring pains which drive to despair, especially when syphilitic or after the abuse of Mercury.	} Aurum met.
Caries and very painful ulcers, which affect the bones and pierce them to the marrow.	} Angust.

Calc. ost.	{	Tardy development of bony tissues, with lymphatic enlargements, fontanelles close too slowly, and teeth come too slowly.
Fluor. ac.	{	Disease of bones, particularly of long bones, caries or necrosis of psoric or syphilitic nature.
Merc.	{	Bone pains increased at night; boring pains in exostoses.
Nit. ac.	{	Syphilitic bone pains, especially after abuse of Mercury; pricking pains.
Syphil.	{	Carious ulcers, pains worse from sundown to sunrise.
Angust.		Caries of tubular bones, with abnormal craving for coffee.
Calc. phos.		Bones affected along sutures or at symphyses.
Phos. ac.	{	Periosteal inflammation, with burning, gnawing, tearing pains; sensation as if bones were being scraped with a knife.
Silicea.	{	Inflammation, swelling, caries and necrosis of bones in subjects who lack vital warmth, or are very sensitive to cold.
Calc. ost.	{	Curvature of bones, especially of spine and long bones; extremities deformed.
Stilling.	{	Chronic periosteal rheumatism, distressing aching pains in long bones, sometimes with nodes (syphilitic).
Kali iod.	{	Chronic periosteal rheumatism, nocturnal bone pains drive to despair (Syphilitic or Mercurial, or both).
Aurum met.	{	Syphilitic bone affections, particularly after the abuse of Mercury, caries of nasal bones, fetid ozæna, pains increased at night.
Fluor. ac.	{	In bone diseases and varicose veins of old people, follows Silicea well.

In this way the author has given the characteristic symptoms or regional leaders as he calls them, under twenty-four heads, as Mind, Head, General Face, Sight and Eyes, &c.

The motive of the author "for offering this (his) third book to the profession is to put into such form (for committal and refreshment) some of the leading symptoms of many remedies as to make the road to a practical understanding of our *Materia Medica* as plain and as easy to be followed as possible," and therefore necessarily in recognition of the fact that not all the symptoms appearing in the *Materia Medica* are equally valuable, some of which, not being pathogenetic effects at all, are absolutely worthless. Such being the case there must be sifting of the 'genuine from

the spurious, and this process, the author tells us, "has occupied the time and painstaking care of the best observers of our school for many years, and the work is still going on, and must continue to go on in the years to come. Nevertheless," says he very properly, "we must, as students, begin with the reliable, and as practitioners retain for ready use what we have." Such a compilation, we may add, has the beneficial effect of helping on the sifting process, by the elimination in the course of trial of those symptoms which we have been considering as reliable but which prove to be not so.

From the specimen we have given it will be evident that the title of the book is, strictly speaking, not quite correct. *Bones* exist in all the regions of the body, constituting its hard framework, and therefore cannot be looked upon as forming a region. This will be more evident from some of the other headings, such as "Chill, Fever and Sweat," "Generalities," "Causes and Modalities," "Constitution and Temperament," none of which can by any stretch of the imagination be brought under the category of "regions of the body." The heading "Chill, Fever and Sweat," we may remark in passing, is scarcely logical, inasmuch as the constituent symptoms of Fever are—Chill, Heat, and Sweat, one or two of which may be absent. The author evidently takes fever for heat, which is a vulgar notion, and should not have been adopted in a scientific work.

From the specimen we have given it will be seen that the characteristic symptoms given under each drug have been well chosen, though it will also be seen that the list is susceptible of improvement both as regards the number of drugs and the symptoms. For instance, it is a serious omission to make no mention of such remedial agents as *Hecla lava* and *Conchiolum*, under diseases of bones, the former of which has been found useful in exostoses, especially of the jaws, and in bony tumors (osteosarcoma), and the latter in inflammation of ends of long bones, commencing at one or other end of the diaphyses or shafts. But the author has disarmed criticism by saying in the Preface: "No doubt I have left out some that are as valuable as those that are in; but let each add to them 'as seemeth good' and thus become a contributor."

Notwithstanding what we have said, the book is eminently a practical and safe guide in the choice of remedies, and deserves to be read by both student and practitioner. We have no doubt that the author will become his own contributor, and make the work more complete and perfect in the second edition which we are sure will soon be called for. The get-up of the book—typography, paper, binding—is excellent, and the size permits it to be carried in the pocket.

EDITOR'S NOTES.

Immunity of Hedgehogs to Cantharides.

Hedgehogs, according to Alexander Ellingers, are immune to the toxic action of cantharides. Horvath has known a hedgehog to eat 30 grammes of live cantharides, containing 10 centigrammes of cantharidin, during 24 hours without suffering the least harm. This is a large dose compared with that which a human being can tolerate; thus, a fifth of a milligramme causes albuminuria in a human adult, whilst two centigrammes constitute a lethal dose. Ellinger finds that the lethal dose for a hedgehog is 10 centigrammes by intravenous injection, and that a dose of two centigrammes has no effect on the animal's kidneys. These organs are capable of eliminating large quantities of cantharidin without causing any organic lesion. The cantharidin so excreted retains, however, its toxic action on other animals. It is interesting to note that the skin of the hedgehog is susceptible to the irritant action of cantharidin.—*Lancet*, Dec. 21, 1901

Red Dust Analysis.

Mr. Barac, in the Journal of the Meteorological Society, gives an analysis of a sample of the dust which he collected at Fiume (Hungary) on the 10th of March during the red dust-shower known as the "rain of blood." The dust analyzed as follows:

	per cent.
Silica... ..	49.49
Sesquioxide of Iron	9.96
Alumina	12.10
Peroxide of manganese... ..	1.99
Lime... ..	11.46
Magnesia	0.40
Carbonic acid	8.96
Organic matter	5.48

Also traces of soda, sulphuric and hydrochloric acids, etc. With a microscope of 640 diameters M. Barac found that the principal mass was colorless, with colored particles of irregular form partly made up of angular fragments of crystals, also mineral particles and silicious skeletons of micro-organisms, and lastly particles of soot. A further examination showed the existence of well-formed rhombohedra of calcite and cubes of common salt. As regards size, the crystalline particles varied from a minimum of 0.00004 inch to 0.00007 inch mean and 0.002 maximum, while the yellow and structureless particle reached 0.00046 inch.—*Scientific American*, December 21, 1901.

Tetanus Antitoxin.

In reporting 4 cases of tetanus treated by antitoxin, strictly according to the precepts of Behring, B. Möllers (*Deut. med. Woch.*, Nov. 21st, 1901) points out that, although there is no unanimity of opinion with regard to the value of the serum treatment, there appears to be only a few cases reported which recovered in which the serum was injected within thirty hours of the initial symptoms, and in which at least 100 units were used, and it is not at all certain that the recovery in these cases was due to the antitoxin. Animal experiments show that when injected soon after the infection with twelve times the lethal dose the rabbit can be saved, but if the space of time after infection is increased larger quantities are required until six hours, when antitoxin injections are useless. It is therefore not to be expected that in human beings, when the infection has occurred a considerable time before, antitoxin could be of any avail. However, in case any unbound toxin is still circulating, antitoxin should be injected as soon as possible, but the most important use of it rests in its application at once in cases of wounds soiled in such a way as to render it possible for tetanus to develop therefrom. The cases reported were severe ones, large quantities of antitoxin were injected very early, and yet death occurred in all cases without any benefit having been observed which could be ascribed to the treatment.—*Brit. Med. Journ.*, Dec. 21, 1901.

Secular Variation of the Earth's Magnetism.

Raulin claims to have discovered a revolution of the north magnetic pole about the geographical pole along the 70th parallel of latitude, and maintains that such a revolution would explain all the secular variation observations made in Europe and in the Atlantic. The period of the revolution is 600 years. In 1664 the declination was zero at Paris. In 1580 it was 11 deg. 30 min. east. In 1814 it reached its greatest western value (22 deg. 34 min.). Since then it has undergone a steady diminution. In 2264 the pole will have completed its revolution, and arrived back in the meridian of Paris. The dip must decrease from the maximum of the first observation in 1671 (75 deg.) all the time until the arrival of the pole in the meridian of Paris. This it has done steadily so far. For in 1814 it was 68 deg. 36 min., in 1830 67 deg. 40 min., and in 1865 it was 65 deg. 58 min. Its minimum will probably be 62 deg. 12 min. The author suggests as a cause of this motion a lagging of the liquid or viscous center of the earth behind the crust in its revolution toward the east.—V. Raulin, *Comptes Rendus*, November 4, 1901, in *Scientific American* *Supplement, December 21, 1901.

The Use of Insects as Food.

M. Dagin, a French entomologist, has recently written an article in which he recommends certain insects as an article of diet. He speaks with authority, having not only read through the whole literature of insect-eating, but having himself tasted several hundreds of species raw, boiled, fried, broiled, roasted, and hashed. He has even eaten spiders, but does not recommend them. Cockroaches, however, he says, form a most delicious soup. Pounded in a mortar, put through a sieve, and poured into water or beef stock. Dagin says they make a purée preferable to bisque. Wilfréd de Fonvielle, the French scientist, prefers cockroaches in the larval state. The perfect insect may be shelled and eaten like a shrimp. Then, caterpillars are a light food and easy of digestion; not only African and American natives like them, but they are also appreciated by Frenchmen. M. de Lalande, the astronomer, dined every Sunday with the zoologist Quatremere d'Isjonvalle, and Mme. d'Isjonvalle used to collect caterpillars and serve them to the guest. The locust is much eaten by the Bedouins, and may be enjoyed fried, dried in the sun, ground into flour, boiled in milk, or fried and served with rice. The Jesuit father Cambon thinks that locust flour might become popular in Europe as a condiment. The precise opinions which are expressed by travellers as to locusts differ considerably. Amicis said that they taste like shrimps; Niebuhr, like sardines; and Livingstone, like caviare—another illustration of the differences of palatal appreciation.—*Medical Times and Hospital Gazette in Scientific American Supplement*, December 21, 1901.

Spontaneous Rupture of the Bladder.

Havas (*Pres. med.-chir. Presse*, October 27th, 1901) reports a case illustrating the fact that a normal bladder may rupture under the stress of acute complete retention of urine. A previously healthy labourer, aged 55, had two rigors on February 13th, since which date he passed neither urine, nor feces, nor flatus. Micturition had always been normal, and gonorrhœa was denied. On the 15th and 16th the patient himself applied hot fomentations to the abdomen; on the 16th also three surgeons attempted unsuccessfully to pass the catheter. On February 17th he was admitted to hospital with symptoms of peritonitis—vomiting, hiccough, meteorism, and collapse. There was a prominence in the region of the bladder, but tympanitic resonance over it, except for three fingerbreadths above the symphysis. A catheter was passed without difficulty, but no urine was obtained except what collected in the lumen. There were constant strangury.

and a sensation of distension. *Post mortem* urine was found in the peritoneal cavity. The renal pelves and the ureters were normal. On the posterior vesical wall there was a vertical laceration, over an inch in length, extending through the peritoneal coat. On the anterior wall of the prostate there was a gutter-like tear, covered with coagulum, which was directly continuous with a perforation of the membranous urethra, and was evidently a false passage made in the attempts at catheterism. The mucous membrane of the urethra and bladder were normal. The prostate was hypertrophied, and was doubtless the cause of the retention. This may arise in any stage of prostatic enlargement from œdema of the prostatic plexus. The false passage was not connected with the rupture, since the symptoms of peritonitis preceded the catheterism.—*Brit. Med. Journ.*, Dec. 21, 1901.

The Influence of High Temperatures on Tubercle Bacilli in Milk.

Barthel and Stenström (*Centralbl. f. Bakt.*, October 8th, 1901), in reviewing recorded experiments on the sterilisation of tuberculous milk, remark on the very variable results obtained by different observers. Bang has stated that heating tuberculous milk to 80°C. is not sufficient to kill the bacilli, but that a temperature of 85° C. is sufficient for the purpose. Forster has found 70° C. for five to ten minutes capable of killing the organism; De Man, 70° for ten minutes and 80° for five minutes. Galtier has shown that milk submitted to 70°, 75°, 80°, and 85° for six minutes is still capable of conveying infection, and others have had similar results. Barthel and Stenström have conducted experiments which go to show that the chemical reaction of the milk has much to do with the facility with which it is sterilised. The material was obtained from a cow with an udder in an advanced state of tuberculosis. Guinea-pigs were used to test the result, and the effects of 65°, 70°, 75°, and 80° were studied. The results were positive in all cases; that is to say, a temperature of 80° for ten minutes, a temperature of 75° for fifteen minutes, 70° for fifteen minutes, and 65° for twenty minutes were all incapable of sterilising the milk. These results the authors interpret as follows: Storch has shown that the chemical changes in milk are the more marked the more advanced the disease of the udder, and that the reaction becomes more and more markedly alkaline. On the other hand, it has long been known that it is more difficult to sterilise an alkaline than a neutral, and a neutral than an acid fluid. The specimen with which they worked was strongly alkaline, and to this they ascribe the difficulties in its sterilisation. Variations in chemical

reaction explain, in their opinion, the variations in the results obtained by other investigators.—*Brit. Med. Journ.*, Dec. 7, 1901.

Plague.

Terni (*Rif. Med.*, October 8th, 9th, and 10th, 1901) gives some of the results of his experience of over 1,000 cases of plague, seen chiefly at Rio de Janeiro. In differentiating between plague bubo and glandular enlargements from other causes, one ought to pay particular attention to the mode of onset, the character of the local pain, the temperature, and any symptoms of toxæmia, for example, tachycardia and delirium. In bubonic plague there is no suppuration during the acute period of infection. The septicæmic form of plague is always preceded either by gastro-intestinal infection or by bubos (perhaps too small to be felt) which are generally cervical or axillary. In many of the cases diagnosed as septicæmic from the clinical point of view death occurs really from general toxæmia before the bacilli have reached the blood. Septicæmic plague is never primary. The classical type of plague pneumonia has a close analogy to the pneumonia of influenza in its rapid onset and equally rapid course. But there is another type of much slower onset and development, the general and local symptoms appear to be slight, but death is apt to occur quite suddenly between the fifth and tenth days. Certain skin lesions—primary and secondary, and mostly trivial in character—are discussed. The toxic poison in plague appears to act almost exclusively on the circulatory system; even the disturbances of the nervous system are correlated with the want of equilibrium in the circulatory system. Examination of the blood for bacilli is most uncertain and unreliable; it is in the lymphatics and lymph serum that they can be most readily found. As a culture medium the author prefers glycerinated (3 per cent.) agar. The bacteriological and microscopical examination gives such satisfactory results that it can be safely relied on in doubtful cases as a means of diagnosis.—*Brit. Med. Journ.*, Dec. 7, 1901,

Poisoning by Boracic Acid.

Rinehart (*Therap. Gaz.*, October 15th, 1901) records two rare cases of the symptoms of poisoning with boracic acid, and points out the importance of the subject in view of the use of boracic acid as a food preservative, and the general belief in its supposed innocuousness. In 2 fatal cases cited by Wood, of Philadelphia, the symptoms were nausea and vomiting, hiccough, an erythematous skin eruption, fall of temperature, and fatal collapse. The mind remained clear. The

textbook dose of boracic acid—10 gra. every four or five hours—is regarded as too large and prone to induce symptoms of cardiac enfeeblement and collapse. Case I—Man aged 38 years, had posterior urethritis treated with weak AgNO_3 solution locally, and 5-gr. doses of boracic acid by the mouth every four hours. Two days later there followed extreme weakness, and an erythematous rash beset with papules and vesicles developed on the back of the hands and between the fingers. Pulse weak, but not accelerated. The symptoms subsided slowly upon withdrawal of the boracic acid, and reappeared on resuming the drug. The case would probably have ended fatally if the cause of this alarming collapse had escaped detection. Case II.—Man, aged 50 years, had a suprapubic lithotomy performed on him and the bladder washed out daily with saturated solution of boracic acid, and 5 grs. of the drug given by the mouth every four hours. Ten days after the operation there appeared an erythematous rash about the wound and spreading over the hypogastrium. Scales and crusts formed on the rash, and the skin thus affected became thickened and infiltrated as in eczema. On discontinuing the boracic acid the eruption slowly disappeared, and on resuming the drug it reappeared in two days. The drug was slowly eliminated from the system, and hence the rash could be made to reappear with ease. Albuminuria and weakness became prominent symptoms during the appearance of the rash in this patient; the pulse was feeble, nausea was present, and at the height of the eruption the temperature rose one or two degrees above the normal. Rinehart concludes that in view of the above facts the use of boracic acid as a food preservative should be discontinued, “as the poisonous effects of any quantity sufficient to preserve food would appear to be proven.”—*Brit. Med. Journ.* Dec. 7, 1901.

The Cortical Representation of the Functions of the Stomach.

Dr. Paul Sollier and Dr. Henry Delagenière contribute to the *Revue Neurologique* of Nov. 30th an account of a case of local injury to the brain which appears to throw light on the question of the cortical representation of the stomach. The researches of Openchowski and his pupils and of Bechterew have shown that in animals there are present cortical centres which preside over the functions of the stomach and intestines. In the human brain it has not hitherto been possible to localise the centre for the stomach. Dr. Paul Sollier in the course of a research into the cortical representation of the visceral functions in hysterical subjects located the “stomach centre” in the

middle portion of the superior parietal lobule, the principles and methods employed in the study being detailed in a previous article by the same author. The case recorded below now furnishes the anatomical data necessary to corroborate the localisation propounded. It was that of a boy, aged 11 years, who received a wound in the parietal region of the skull from a pickaxe on May 30th, 1900. He lost consciousness and remained helpless and in a comatose state for a week after the accident. Respiration was slow, at the rate of 12 per minute, the pulse was small and accelerated to 108 per minute, and the temperature was elevated. The wound was the seat of a free and abundant suppuration. There was relaxation of the vesical and anal spineters. An operation was performed on June 7th and after the application of the trephine two or three fragments of bone were removed. An abscess cavity was now seen involving the brain-substance to the depth of $5\frac{1}{2}$ centimetres (2 1-5th inches), the shape of the cavity being conical with its base at the surface of the hemisphere, measuring 6 by $4\frac{1}{2}$ centimeters (2 3-5th by 1 4-5th inches). This cavity was drained of its contents, light tampons of sterilised gauze were packed in, and further drainage was secured by means of small tubes. The temperature and pulse fell to normal on the fourth day after the operation and the patient's condition improved for a while. He could swallow with difficulty, and on the sixth day he emerged from the state of coma and seemed to regain consciousness. He could not reply to questions but he swallowed with avidity everything that was given. The next day he uttered a few words demanding food, and devoured greedily what was given. He could now give replies as to his accident but relapsed into a state of slumber from which he from time to time emerged only to ask for more food. He consumed broths, eggs, meat, and all foods and digested them with equal facility. This excessive hunger (bulimia) became more marked during the next few days and to avoid gastric troubles he was now given four regular meals a day. He continued to improve but his voracity persisted. It was noted that marked right hemiplegia was present after the operation. The paralysis was at first flaccid, but eventually contractures of groups of muscles began to develop. Passive movements and regulated exercises were now adopted for the affected limbs and with perseverance a considerable degree of power of movement was regained. The scalp wound was now completely cicatrised. Bulimia still persisted, and this was looked upon by Dr. Sollier as due to irritation of the gastric centre in the parietal lobe from its proximity to the wound which lay just in front of the middle portion of the superior parietal lobule.—*Lancet*, Dec. 21, 1901.

The Fundus of the Mammalian Eye.

Whilst the coarse anatomy of the mammalian eye has been investigated with some degree of completeness, ophthalmoscopic examination appears not to have been carried out on the comprehensive scale attempted by Dr. Lindsay Johnson, and the results of his investigations are of far-reaching interest. Thus, he finds that a classification based on the characters observed corresponds, with but few exceptions remarkably closely with the most recent classification of the mammalia based on general grounds, and amongst other things it is very interesting to see that the ophthalmoscopic picture of the fundus of a negro differs markedly from that of a darkly-pigmented European, but resembles very closely that of a chimpanzee. Moreover, certain moot physiological points as to the exact process of human vision receive some elucidation from a comparison with the structures found in lower animals. The limitation of the greatest sensitiveness to a small area—the macula lutea—is peculiar to man and the apes, in whom alone a macula exists; it is not found even in the lemurs: in all lower mammals the sensitive area is far more diffuse. Convergence appears to be closely associated with the existence of a macula, for (with the exception of a few domesticated animals which develop the power in a slight degree) convergence is limited to man and the apes, and man alone can maintain it for any time. Hence it becomes doubtful if lower animals possess binocular vision. The divergence of the optic axes ranges from zero in man and the apes, 1° in the felids, 20° in the dog, up to 85° in the hare. This wide divergence taken in conjunction with a diffuse sensitive area and a nearly spherical lens must enable some rodents to see almost directly behind them. Slight hypermetropia is the rule amongst mammals and in the lower such as rodents, edentates, and marsupials, it is greater in amount, whilst simple emmetropia is hardly met with. This fact, considering the known acuteness of vision in many animals, and the further observation that those amongst a number of youths from the Congo who possessed exceptionally good vision were all found to be more or less hypermetropic, leads the author to doubt whether emmetropia is compatible with vision of high perfection. In some nocturnal animals a circumferential arrangement of pigment, recalling retinitis pigmentosa, was observed, and it was found that if these animals were for a prolonged period exposed to daylight they became blind by a concentric extension of this pigment. This appeared to offer a hint for treatment of this intractable disease, which ordinarily progresses till vision is destroyed, and the author has found some encouraging results by treating such cases with spectrum-blue goggles. It was

also found that certain conditions normal in some animals were parallel to the congenital defects met with in human eyes, thereby suggesting that the defects may be of the nature of reversions. The pigmentation of some mammalian eyes suggests that the image perceived may not be formed on the front surface of the retina, but that it is reflected back into it, and the further possibility that our perception of colour may be an interference phenomenon; but this is too lengthy a matter to enter into here. Such are a few of the salient points in a paper which will well repay perusal by all interested in the eye, whether as comparative anatomists, physiologists, or practitioners.—*Brit. Med. Journ.*, Dec. 21, 1901.

Three Facts Worth Knowing.

1. A child cannot raise its head from the pillow before the second month. 2. A child cannot sit erect before the fifth month. 3. A child cannot walk before the tenth month, and should walk at the twelfth month.

If the preceding facts could be borne in mind, and mothers be instructed as to just what a child can do, and cannot do at certain periods of its early existence, then there would be less work for the Orthopedic surgeon.

If the young infant is allowed to sit or stand at too early an age, the superincumbent weight of the large head tends at once to exaggerate the physiological curves of the spine to a point where they may become pathological.—*Hom. Journ. of Pediatrics*, Jan. 1902.

Capacity of the Infant Stomach.

Capacity of Infants' stomachs at different ages, and different periods of growth:

- (1) Premature infant's stomach at eight months; capacity 8 c. c.
- (2) Infant five days old; capacity of stomach, 25 to 30 c. c.
- (3) Infant four weeks old—stomach two and one half times larger than number 2; capacity 75 c. c.
- (4) Infant eight weeks old—stomach three and one-fifth larger than number 2; capacity 96 c. c.
- (5) Infant sixteen weeks old—stomach three and four sevenths larger than number 2; capacity 107 c. c.
- (6) Infant twenty weeks old—stomach three and three-fifths larger than number 2; capacity 108 c. c.

The bulk of an infant's feeding should be adapted to the above capacities.—*Homœopathic Journ. of Pediatrics*, January 1902.

CLINICAL RECORD.

Foreign.

A CASE OF PELIOSIS RHEUMATICA WITH ERYTHEMA EXUDATIVUM (SCHOENLEIN'S DISEASE).

By CHARLES E. GREER, M.S., M.D., CHARLESTON, ILL.

Peliosis rheumatica is one species of the general arthritic form of purpura. It is characterized by a sore throat, moderately high fever, multiple arthritis, and a purpuric eruption which usually appears about the affected joints. This eruption may, however, be an urticaria or an erythema exudativum, and under the latter circumstance the disease is sometimes confused with erythema nodosum. The disease usually attacks young people between the ages of twenty and thirty years. The pains affect the ankles, knees and wrists, but may affect all of the joints and even involve the muscular system as well. Rarely do the rheumatic symptoms become generalized, but the heart may become involved, and there may be a genuine endocarditis or pericarditis, which of course renders the case a great deal more serious. In some cases cedema of the cellular tissue is marked, even to the extent of producing a pemphigoid eruption. The urine is diminished in quantity, the amount of urea is below normal, and sometimes a small amount of albumin is present.

Peliosis rheumatica usually appears in persons of rheumatic taint. Nervous exhaustion, privations, exposure to cold or sudden chilling of the surface are among the exciting causes. The prognosis is usually good, unless some serious purpuric or rheumatic complication sets in. Ordinarily it will run its course in from ten days to two weeks.

Treatment.—The ordinary hygienic and other precautions usually taken in rheumatism should be observed. Keep the bowels and kidneys acting freely with a mixture of equal parts of Rochelle salts and potassium bitartrate. If the skin is dry and harsh, bathe it well in tepid water, follow by brisk friction with a rough towel, and then rub in enough olive oil to keep it soft and active. Let the patient avoid sitting in a draught or getting chilled. Give anti-rheumatic remedies internally, such as *rus tox.*, *bryonia*, *guaiacum* and *salicylate of soda*.

As cases of this disease are comparatively rare in homeopathic literature, perhaps the report of one will be of interest to the profession.

On June 17, 1901, a young man entered my office with the following history: He was twenty-three years old; , excepting the use of tobacco, he had good habits, and denied venereal history. Father and mother died when the patient was quite young, so he knows nothing about them. Two sisters are living and well. The patient had had the usual children's diseases, and also had two large abscesses on the left thigh, which discharged some small pieces of bone. He does not know the cause of the abscesses. There is no evidence of joint trouble now. In 1898 he had an attack of muscular rheumatism, which continued for a short time, but was not very severe.

Present History.—Patient has not been feeling perfectly well since December, 1900. At times he would ache all over his body, he had sore throat frequently, his appetite varies, his bowels are always constipated, and he never feels like working.

Four days previously, while digging post holes on a very warm day, he became quite hot. In the evening, although the atmosphere was still warm, he felt chilly and put on his coat. The next morning he had a sore throat, felt sore all over his body, back and legs ached, his hands, wrists, ankles and knees were stiff and pained him quite a great deal, especially the knees and ankles, and he noticed an eruption on his wrists. Pain was very severe when walking. Several chilly sensations were followed by high fever. The urine was scanty.

On presenting himself at the office he had a temperature of 102.6°. Tonsils and pharynx were congested, the tongue was slightly coated white, and on the dorsum of the left hand and wrist were numerous pink elevations varying in size from about that of a pea to that of a three-cent piece. This eruption had well-marked edges, was indurated and elevated, and the color disappeared on pressure, but immediately returned. On the right wrist several had joined together, making a patch about two inches square without any intervening spaces. This same eruption appeared on both cheeks, feet and ankles, and the latter were so swollen that a shoe could not be worn. The eruption did not burn, itch or smart, but felt a little sore, as if bruised. All pain was confined to the joints, but the muscles of the legs and thighs were stiff and ached. Heart, lungs and abdominal viscera were normal. The urine was slightly albuminous, diminished in quantity, of high color and 1016 sp. gr.

Differential Diagnosis.—The only disease for which this might be mistaken is erythema nodosum. In it, however, there is no congestion of the pharynx, tonsils or fauces, the temperature is not so high, and rheumatic symptoms are not so prominent.

Diagnosis.—Peliosis rheumatica accompanied by an erythema exudativum.

Treatment.—A tepid bath was followed by brisk rubbing and inunction of olive oil. Bowels and kidneys were kept active by means of teaspoonful doses of Rochelle salts and potassium bitartrate, equal parts, three times a day. The patient was ordered to remain in the house, keep quiet, and avoid becoming chilled. On account of the congested tonsils and pharynx with marked rheumatic symptoms, the patient was given guaiacum 1x every two hours, with a five-grain powder of salicylate of soda four times a day.

On June 22nd he, reported himself better in every respect, with throat well, eruption fading, and pains better. Guaiacum was discontinued and rhus tox. 3x substituted. In five days more he was perfectly well.—*Hahnemannian Monthly*, Dec., 1901.

SOME CASES WHICH BELONG TO THE GENERAL PRACTITIONER RATHER THAN THE SPECIALIST.

By C. GURNEE FELLOWS, M.D.,

Chicago, Ill.

A great many papers have been written upon the subject of eye strain, the burden of which has been to prove that many general physical ailments have been dependent upon some diseased condition of the eye or its appendages. In this paper I wish to call attention to a class of cases which present themselves to the oculist which do not strictly belong to him, but rather to the general practitioner. Many of these cases demand an examination at the hands of an oculist to arrive at the diagnosis through the process of exclusion. A few illustrations showing a variety of cases will best exemplify the statement :

CASE I. Miss V. C., age twenty-four, was referred to me in April, 1900, by her physician. The patient was employed in office work, and complained of eye strain, headache and weariness in the use of the eyes, with flickering spots before her vision. These spots seemed to be of various colors at first, but finally settled into floating black spots. A few hours' work would be followed by headache and blurring of the vision, with heaviness of the lids, so that she could hardly keep them open, although she was not sleepy. One eye was worse than the other, although she apparently used both eyes. Objects seemed clear at first and then faded away after looking at them. A test of her vision proved that the right eye was normal while the left eye was slightly below normal. The muscular balance was good, the ophthalmoscopic examination was negative, in that no distinct pathological condition existed nor were there any floating opacities found. The fundus of the left eye appeared a little hazy with a suggestion

of retinal effusion, but no inflammation or hæmorrhage could be detected. Careful questioning of the patient revealed the fact that she was very much overworked, both in the office and out of it. Her business hours were sufficiently long in themselves, but in addition she was doing a great deal of outside work of a philanthropic nature and spent her Sundays in church, Sunday school, etc., so that her total hours of rest were inadequate for the continued nerve strain. I found that she had been losing flesh, had not taken a vacation for two or three years, and was now suffering from loss of appetite, general malaise, apparent anemia, and many other characteristic symptoms of neurasthenia. She refused to take a vacation, but was willing to do all that we advised from a medical standpoint.

My recommendations to her physician were to compel her to give up all outside work, to get ten hours' rest every night, to stay in bed or at least be quiet on Sundays; to feed her light but nutritious food, five times a day, and to attend to any other physical conditions found with the addition of appropriate medical treatment. The patient accepted this plan and followed it out carefully. In three months she reported to be much better. Her health, although not radically improved, did not annoy her as formerly, and her working power was more satisfactory. In eight months the vision in both eyes was normal, she had gained in weight, and found that under compulsion she could give up much of the work that she had formerly been doing; in twelve months she was much more nearly in normal health. I did not prescribe glasses or any special eye treatment, and yet I believe that the ocular examination was of great assistance in a negative way. Many similar cases have been reported in which all of the physical conditions herein mentioned have been removed by correcting an astigmatism or a muscular deficiency. But in this case I believe that the eye symptoms were only a part of the general abnormality.

CASE II. Mr. F. had been under my care at various intervals for the prescription of glasses and transient eye defects, but came last year with vision very much affected, and wished for another pair of glasses. Vision was reduced one-half as compared with former examinations and I began to hunt for a cause. I knew that he was in the habit of drinking a good deal of whisky, and a casual physical examination revealed a system much below par, and I asked for the opinion of his physician before I should proceed with any treatment of his eyes. A urinary examination led to a correct diagnosis, showing his condition to be dependent upon abnormal kidneys and liver,

a correction of which restored him to health, and his eyes recovered their former vision and the glasses previously prescribed were as useful as ever.

Several cases have presented themselves desiring an examination and prescription for glasses in which an ophthalmoscopic examination revealed a retinal condition suggestive of some kidney lesion and in which a subsequent urinary analysis has proven the existence of an interstitial nephritis. These cases had no knowledge of any possible trouble outside of the symptoms which called attention to their eyes.

CASE III. Mrs. M. had been suffering for four months with a severe pain in and over her left eye, which was aggravated by the use of her eyes, especially in fine work, and under the supposition that she must have some ocular defects, capable of being remedied by the use of glasses, she presented herself for examination. Her vision was normal; she had no astigmatism or muscular unbalance. The pain did not lessen under the use of atropine. Referring her to her family physician uric acid was found in excessive quantities which, to my mind, was the cause of what I believe was simply a neuralgic or rheumatic pain.

Thus I might cite cases indefinitely which would not prove the point any more conclusively that the eye is a part of the human body and in its treatment should not be separated so entirely as some would have us think. It is often, no doubt, a cause of direct or reflex physical conditions, but it in turn suffers as a result of other near or remote causes. The wise physician does not prescribe on separated or individual symptoms, but endeavors to get a picture of his case by any or all of the special physical examinations.—*North American Journal of Homœopathy*, December, 1901.

Gleanings from Contemporary Literature.

A LECTURE ON HEMIPLEGIA

*Delivered at the National Hospital for the Paralyzed and Epileptic,
Queen-square, on Nov. 29th, 1901.*

BY JAMES TAYLOR, M.A., M.D. EDIN, F.R.C.P. LOND.,

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Gentlemen,—The subject of my lecture this afternoon is hemiplegia, by which is meant that condition in which power is impaired on the whole of one side of the body. In the common variety of this form of paralysis one arm, one leg, one half of the face and of the tongue, and one half of the trunk are affected on the same side. In another variety one arm, one leg, and one side of the trunk are affected on one side, while the face is affected on the other. The latter is known as “crossed” or “alternate” hemiplegia. There is another form of crossed hemiplegia in which the arm, the leg, and the trunk are affected on one side and the structures innervated by the third cranial nerve on the opposite side ; and still another in which the parts supplied by the fifth nerve are affected on one side, causing sensory impairment on the same side of the face, while the motor power of the opposite limbs is affected. There is yet another kind of paralysis to be considered called “double hemiplegia,” but this in itself is scarcely a separate variety, only a condition in which paralysis of one side has been succeeded by paralysis of the other, and on account of the affection being a two-sided one certain symptoms—especially the affection of what are known as bilaterally associated muscles—are produced, in many instances causing a close resemblance to bulbar palsy, so that certain cases of double hemiplegia are also spoken of as cases of “pseudo-bulbar paralysis.” In this lecture I shall only just refer to the condition known as “functional” or hysterical hemiplegia—a condition in which, without any, at all events discoverable, lesion, the symptoms of hemiplegia due to organic disease are very closely simulated. I have thought it best, in order to obtain as comprehensive a view as possible of our subject, to divide the lecture into two main parts and to consider (1) the character of the paralysis, the relative weakness or disability produced in different parts of the body depending upon the position of the lesion in the brain ; and (2) the nature of the lesion producing the paralysis as determined by the clinical history of the case. In conclusion, I shall show you several cases which will illustrate at least some of the points to which I shall refer.

As regards the character of the paralysis, in the ordinary form of hemiplegia there is weakness of one side of the face and trunk and of one arm and of one leg. It is not infrequently said that the paralysis of the face is of the lower part only, but the whole of the one side of the face is affected

although the weakness of the lower part is more obvious ; in some cases of old hemiplegia it is hard to say that there is any facial paralysis. The weakness of the trunk on one side also is not as a rule very marked, although it is distinct enough, and the reason for this I shall refer to presently. In reference to the limbs, the arm is in the great majority of cases more paralysed than the leg. Why, then, with a lesion of one side of the brain causing paralysis of the opposite side of the body should the parts be affected in this way—namely, the face and trunk less than the limbs, and of the limbs the leg less severely than the arm ? The explanation of this peculiarity is to be found in the hypothesis formulated in 1866 by Sir William Brodribb—a hypothesis which throws much light on obscure problems of cerebral physiology and pathology, and one to which clinical experience gives almost daily stronger support. This hypothesis is that bilaterally associated movements are represented on both sides of the brain, and the greater the strength of this bilateral association the more nearly equal is the representation on the two sides of the brain. Thus we know that the two lower limbs are much more closely associated in their movements than are the two upper. We very frequently use one arm quite independently of the other. A movement of one leg without some movement of the other is comparatively uncommon, and in the habitual use of the lower limbs for purposes of locomotion the association of the two is a very close one. The same applies even more strongly to the trunk movements. It is apparent that it is impossible for us to move one side of the abdomen or the chest without also moving the other. And so also with regard to the face. Facial movements in expression, &c., are nearly always bilateral. With regard to the forehead especially they are inevitably so ; with regard to the eyes less so, although some people find it impossible to wink with one eye ; and with regard to the lower part of the face—the part about mouth—the association is still less close, although still much closer than that between the two arms or even between the two legs. Given, then, a lesion of one side of the brain causing paralysis of the opposite side of the body—the face, the trunk, the arm, and the leg—and situated at such a point (if such a point can be imagined) as to affect the face, the arm, the leg, and the trunk areas or fibres equally, we should expect to have the arm most affected, the leg less affected, the face still less especially in its upper part, and the trunk least of all ; and this, as I have already told you, is what actually happens in the ordinary form of hemiplegia. And I may just mention in passing that this hypothesis explains also the phenomena we meet with in double hemiplegia or pseudo-bulbar paralysis to which I have already referred. The symptoms by which this is allied to bulbar palsy are in the fact that swallowing and articulation are affected. The movements subserving those actions are strong in their bilateral association and consequently in their bilateral representation in the brain, so that a lesion of one side of the brain if it affects them does so only temporarily. But if, in addition to the weakness caused by a unilateral lesion, we have the weakness produced by a second lesion on the

opposite side, it will at once be understood that considerable interference with these movements is not only likely but almost inevitable. And such is the case, and as a consequence we have deglutition and articulation so interfered with—to mention the two most prominent symptoms—as to give rise to a condition closely simulating true bulbar paralysis.

Let us now consider for a moment the position in which a lesion will be situated in the brain to cause such a condition as I have briefly sketched. Beginning with the cortex, we may have the lesion situated there, causing so great a loss of power on the opposite side of the body as we have alluded to and you will easily understand that the lesion would have to be one of very considerable extent. As the fibres of the motor tract proceed downwards and the area which they occupy becomes smaller and smaller they become more and more closely aggregated. There may be a lesion occurring at any part of their course. There may be one under the cortex, necessarily also a large one, or where the fibres are massed together in the posterior part of what is known as the internal capsule, a tract of fibres lying between the lenticular nucleus and the caudate nucleus and optic thalamus, and this is by far the most common situation. Or we may have the lesion in the crus cerebri or in the pons, or even lower down in the medulla, although in the latter case, if it is low enough—i.e., below the trunk and nucleus of the facial nerve—the face will escape altogether. But I have not seen a lesion so situated. In any of these positions a small lesion may be sufficient to cause extensive paralysis. In determining the position of a lesion it is necessary to remember that just as the centres for the different parts occupy a definite position in the cortex so the fibres have a similar definiteness at least as low as the crus. Thus in the internal capsule the face fibres are in front of the arm fibres, and those again in front of the leg fibres. And it may incidentally be mentioned that behind the leg fibres run the sensory fibres, and behind these again are the visual fibres subserving the two corresponding halves of the retinae—i.e., the field of vision of the opposite side, so that a patient with a lesion in this position on the left side has right hemiplegia and cannot see to his right side—a condition known as “right hemianopia.” Similarly in the crus the face fibres are internal to the arm fibres, whilst the leg fibres are external to those for the arm. In the pons the same division cannot be distinguished, for the fibres are now collected into several bundles without any, at all events discovered, topographical relation to function. You will also see that it is possible for a lesion to affect not the whole of the opposite side of the body but only a part, and then it will give rise to what is known as “monoplegia”—a small lesion in the leg area of the cortex, e.g., may cause only weakness of the opposite leg. It will scarcely cause complete paralysis by reason of the bilateral representation already referred to. A limited lesion in the arm area may, however, cause practically complete paralysis of the opposite arm alone. From the closer aggregation of the fibres lower down the lesion to cause a monoplegia would have to be an exceedingly small one, and as a matter of fact monoplegia from any lesion lower than the cortex, or just underneath it, is very rare for this reason.

We may have, then, an ordinary case of hemiplegia—we shall say “left hemiplegia” for reasons which will be obvious further on. Such a condition as that described may be due to a lesion in any of the places mentioned and without further symptoms it is impossible to say where. Sometimes, however, we find that the leg is more affected than the arm, that for example, movement of the foot is completely absent while the hand can be moved. In such a case the face is as a rule slightly if at all visibly affected and the lesion will of course be one the focus of which is in the leg area of the cortex or among the leg fibres of the internal capsule or the crus. It is, indeed, a condition, as it were, midway between monoplegia and ordinary hemiplegia. In many cases, also, in which the leg is more affected than the arm there is anæsthesia of the paralysed side present and then the lesion is situated in all probability at the hinder part of the posterior two-thirds of the internal capsule. As we have already mentioned, the fibres are the most posterior of the motor fibres in the capsule and lying close to them are the sensory fibres. If, in addition to the anæsthesia, there is also hemianopia (loss of the corresponding half of the field of each eye) the probability of the lesion being of the hinder end of the capsule becomes a certainty, and conversely, where, in a case of hemiplegia you find hemianopia and hemianæsthesia, the leg, as a rule, is more affected than the arm.

I have hitherto purposely spoken of left hemiplegia, as there is frequently associated with paralysis of the right side the condition known as aphasia, in which the patient is unable to speak or perhaps even to understand what is said to him. According to current doctrines permanent aphasia is always due to a cortical lesion or to a lesion lying immediately under the cortex, and it is said that any lesion situated lower is not capable of causing at least permanent aphasia. The reason for this is said to be that speech processes can be conducted across through the corpus callosum and reflected down from the opposite hemisphere.

It is the rule with right hemiplegia to have some degree of aphasia. If there is none, then either the patient is left-handed or the lesion is situated at some distance from the speech centre and in such a way as not to interfere with the conduction of speech processes. Thus a lesion of the internal capsule may cause right hemiplegia without aphasia and even a cortical lesion may do so if the speech centre is not injured. If, for example, you have the focus of a unilateral cerebral lesion near the middle line it is quite likely that the third frontal convolution may escape, and Dr. J. Hughlings Jackson has for years been in the habit of pointing out that in cases of right hemiplegia without aphasia or with slight and transient aphasia the leg as a rule is more affected than the arm. I am able to show you to-day two cases illustrating this.

But besides these ordinary forms in which the affection of one-half of the body is all on the same side, a condition of crossed hemiplegia is met with, as I have already stated. The most common form is that in which the face on one side is affected and the limbs on the other. In such a case the lesion is situated in the lower part of the pons affecting the pyramidal tract

before it has decussated and involving the fibres of the facial nerve as they pass from the nucleus to emerge as the facial nerve. The affection of the face in such a case is, as a rule, more severe than in ordinary hemiplegia and partakes much more of the character of the paralysis known as "peripheral facial palsy" or "Bell's paralysis." In other words, the upper part of the face is much more affected than is usual in cerebral paralysis. The sixth nucleus also is often affected in such a case, and this will not be surprising when you think of the relation of such a lesion in the position I have described to this nerve and the close connexion of the nuclei of the sixth and seventh nerves. Similarly we may have hemiplegia in a patient associated with anæsthesia of the face, and in such a case also the lesion must be pontine, the anæsthesia being due to affection of the fifth nerve or its nucleus. Sometimes in a case of hemiplegia, in other respects of the ordinary type—namely, affection of the face, the arm, the leg, and the trunk on one side—we have paralysis of the third nerve of the opposite side. Such a condition, if it is the result of only one lesion, can result from a lesion in only one situation—namely, in the crus cerebri of the side on which the third nerve is paralysed. It is a very uncommon form of hemiplegia.

We shall now proceed to the second part of the subject and consider how to determine the nature of the lesion causing hemiplegia, whether hæmorrhage, thrombosis, embolism, or tumour. The two factors to be taken account of in such consideration are the mode of onset of the paralysis and what may be called the clinical pathology of the individual, meaning by this the state of his arteries, pulse, heart, kidneys, and organs generally.

1. As regards hæmorrhage the onset of the paralysis is, as a rule, sudden and may take place during exertion. Perhaps one of the commonest forms of exertion with which cerebral hæmorrhage is associated is straining at stool. There is usually loss of consciousness, and if the hæmorrhage is a large one there may be profound coma with stertorous breathing of the irregular respiration known as Cheyne-Stokes respiration. If the hæmorrhage is superficial, that is cortical, the onset is usually signalled by a convulsion starting in the limbs opposite to the site of hæmorrhage and usually becoming universal. There may be a series of such convulsions the result of the cortical irritation. The pulse may be full and tense and the artery hard and obviously atheromatous. Healthy vessels do not readily rupture, whereas atheromatous ones do, and, besides, atheroma of arteries is not uncommonly associated with the presence on them of small aneurysmal dilatations. The heart also may be hypertrophied and there may be contracted kidneys. It does not necessarily follow that there will be albumin in the specimen of urine you may examine, but this does not exclude kidney change, and it is well to examine for the presence of vascular changes usually associated with kidney disease besides those already mentioned. The most important of these are the changes in the retina and its vessels, the condition known as "albuminuric retinitis," and I have known this frequently present in cases in which repeated examination has failed to reveal the presence of albuminuria.

2. The presence of these retinal changes is not absolutely conclusive that the condition giving rise to the symptoms is cerebral hæmorrhage, for it must be remembered that the condition of vessels which makes them liable to rupture is also that which tends to give rise to clotting in them and so induce the second condition which we have to consider as a cause of hemiplegia—viz, thrombosis. When this condition is present in the old the onset as a rule occurs during rest, often the rest which follows undue exertion. The commonest time of onset is during the night and the paralysis may only be realised when the patient gets up, or tries to get up, in the morning. Loss of consciousness may or may not take place—more frequently it does not; the pulse is slow and the condition generally not apparently one of such urgency and seriousness as in hæmorrhage. As will have been evident from what has already been said, visceral changes may be present similar to those mentioned as associated with hæmorrhage, for, as already stated, the atheromatous condition of the arteries renders them not only liable to rupture but also to become blocked. One thing is worth remembering, and that is that when the hemiplegia is on the right side and aphasia is present the cause is more likely to be thrombosis than hæmorrhage. The reason of this, from what has been said about the situation of the lesion in aphasia, will be apparent.

What I have said so far about thrombosis refers particularly to that condition as occurring in the aged. But hemiplegia is not confined to the aged, and in young adults or people generally under the age of 40 years in whom no heart disease or kidney disease is present hemiplegia is almost invariably due to thrombosis occurring in diseased vessels. The nature of such disease is the thickening which results from syphilis, and this is no doubt the usual condition giving rise to hemiplegia in those who have not reached the age at which senile atheroma may occur or in whom there is no cardiac condition likely to give rise to embolism or diseased vessels with kidney affection.

3. This leads us to the consideration of the third condition causing hemiplegia—viz, embolism. In embolic hemiplegia the onset is sudden, consciousness may or may not be lost, and if it affects the right side aphasia—transitory it may be—is usually present. The sudden onset and the presence of obvious heart disease, specially of mitral stenosis, are usually sufficient to indicate the nature of the lesion, although even then the rule is not absolute, and I have known thrombosis occurring in an artery affected with endarteritis due to syphilis cause hemiplegia in a patient with mitral stenosis.

4. Another cause of hemiplegia is tumour and in this the clinical history is of immense importance. If there is or has been headache, sickness, and optic neuritis with unilateral weakness, of course the cause is almost certainly tumour, but you may justifiably diagnose tumour when not one of those so-called classical symptoms is present, if there is hemiplegia of slow onset—i.e., affecting first one limb slightly and gradually increasing its effect both in degree and in extent, the weakness occupying months or even longer before it can be definitely described as hemiplegia. If the tumour is

situated beneath the cortex or in the vicinity of the central ganglia you may have only the slow onset to guide you ; if it is in the cortex you may have in addition fits of local commencement and the hemiplegia may at first be only a temporary one occurring after the fits.

I need scarcely consider the question of abscess which may also cause hemiplegia. If abscess is present you will probably have a history of traumatism, or ear disease, or empyema, or suppuration in some other part. I have known, however, cases of abscess in which none of those were present and in which the clinical history and conditions did not give rise to any suspicion that the cause was other than an ordinary vascular one. Yet in the great majority of cases of abscess you will have one of the three conditions I have mentioned—ear disease, suppuration elsewhere, or a history of injury.

I would just mention the hemiplegia which occurs in childhood. This may be of two kinds. 1. You may have a birth palsy hemiplegic in type, although in this form of paralysis the symptoms are usually bilateral. As the onset occurs during birth, usually in first-born children, and in cases in which the labour is long and difficult, often instrumental, and as the cause of it is meningeal hæmorrhage, you can understand that the affection is usually bilateral in its symptoms, the hæmorrhage extending on each side of the vertex. But you can also understand how the symptoms may be hemiplegic if the hæmorrhage is confined to one side of the vertex. 2. The other form of hemiplegia in childhood is the ordinary so-called infantile hemiplegia occurring in the early years of life, commencing usually with a unilateral fit or a series of convulsions. The cause of this is uncertain ; according to some it is an inflammation of the grey matter, according to others a thrombosis in arteries, while Sir William Gowers believes that it is determined by a venous thrombosis. The hemiplegia is often severe, there is sometimes present the peculiar mobile spasm known as athetosis, and the patient is often subject to fits starting on the paralysed side. One point also is of interest, and that is that mal-development of the hemiplegic side nearly always results, so that it is smaller in every way than its fellow. I am able to show you an excellent example of this.

The treatment of hemiplegia divides itself into two natural parts—the treatment at the onset and the later treatment undertaken with the view of restoring function as much as possible. The great point in reference to the treatment at the onset is to determine the cause of the paralysis. If it is embolism, absolute rest, light food, and extreme care in avoiding any strain on the heart are the essentials ; if it is hæmorrhage, free purgation, light, easily digested food, leeches to the temples if there is pain, and absolute rest are the main things ; if it is thrombosis in the old, gentle aperients, together with cardiac stimulants and liquid nourishment, are best ; if thrombosis in the young, then mercury and iodide of potassium must be energetically administered. It is unnecessary to go into the subject of the treatment of tumour or abscess. Antisyphilitic remedies or operation are the only means open for the former, operation for the latter is the only

treatment to be considered. Treatment in the later stages is directed to improvement of the condition. Loss of power and rigidity are the two things to be considered. Gentle rubbing is certainly useful in overcoming the rigidity, faradiation applied to the extensors—e.g., of the forearm—may diminish the flexor spasm and will also exercise the affected limbs. Fresh air, gentle exercise, and light, easily-digested food, are the other means for securing the best results.—*Lancet*, Dec. 28, 1901.

AN ADDRESS

ON

LOCALISATION IN THE "MOTOR" CEREBRAL CORTEX.

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The subject of cerebral localisation is one of obviously great extent. We should be lacking in all sense of proportion did we suppose ourselves expected to attempt before such a meeting as this to deal with it except in regard to some portions with which as experimentalists we are acquainted at first hand.

We may recall, however, how very different is the point of view from which the cerebral cortex is to-day regarded from that taken prior to the observations of Hughlings Jackson and the experiments of Hitzig and of Ferrier. Up to that epoch, experimentalists had failed to get evidence of localisation of function in the cortex of the hemispheres, though in microscopic structure the great sheet of grey matter presented such similarity to nervous formations, regarded elsewhere as nerve centres. Progress of knowledge in regard to the nervous system has been always indissolubly linked with determination of localisation of function in it. This has been so from the time of the Bell-Magendie discovery of the differentiation of function in the two spinal roots; and another instance is Flourens's delimitation of the respiratory centre in the bulb. The discovery of localisation of function in parts of the cortex laid the foundation for an advance of knowledge regarding it, which has led to the supply to the student of charts of its functional topography very similar to the geographical maps of continents which are supplied to the schoolboy. And just as the schoolboy, looking over the political map of a continent, is liable to forget the complexity of the populations and states which it so simply represents, so that we, looking at the brain chart of the text book, are liable sometimes to forget the unspeakable complexity of the reactions thus rudely symbolised and spatially located.

If we may be allowed an *a priori* consideration it is this—that though it is not surprising that such territorial subdivision of function should exist in the cerebral cortex it is surprising that by our relatively imperfect artifices for stimulation we should be able to obtain clear evidence of the localisation which does exist. The nerve-cell chains that together build up the nervous system are in the architecture of that system so arranged that the longest of them all tend to pass through the cerebral cortex. Every increase in the number of links composing a nerve-cell chain seems to increase greatly the uncertainty of its reactions under artificial excitation. With increase in number of links goes increase in numbers of side-branches and connections. The difficulty of getting long cell-chains to react in a regular way under artificial stimulation seems greatly enhanced by the multiplication of the side connections because the momentary condition of any cell-chain is in part a function of the condition at the moment of all the other cell-chains with which it is connected. The cortex cerebri might therefore well have been expected to yield under artificial stimulation only extraordinarily irregular results. We owe to Hitzig and to Ferrier the pregnant demonstration that as regards the motor region this expectation is not well founded. It is mainly of the reactions of the Rolandic area of the cortex that I shall venture to speak, and Ferrier showed that the application of faradic current to that cortex excites with great regularity movements which vary in distribution as the electrodes are moved from place to place in the region, but that the reactions remain very regularly similar under repeated application of the stimulus to any one and the same spot. Ferrier's mode of indicating the topographical arrangement of the reactions he obtained is seen in his well-known diagrams of the cortex. His motor centres, as he termed them, were marked in his figures by circular areas. "The areas have no exact line of demarcation from each other, and where they adjoin stimulation is apt to produce conjoint the effect peculiar to each." He showed these motor centres to extend forward over the frontal lobe, including these reactions of the eyeballs. Regarding their extension round the upper edge of the hemisphere and down upon the mesial surface he noted them in the marginal convolution. "This convolution in the parieto-frontal region gave rise to movements of the head and limbs apparently similar to those already obtained by stimulation of the corresponding regions on the external surface."

This ever memorable original research by Ferrier ranks among the classics of experimental neurology and physiology. It has been followed by a number of kindred contributions from workers largely of our own country—names familiar to us all—Schüfer, Horsley, Beevor, Mott, Ballance and others. These have led to the detailed knowledge we possess of the localisation of functions in the cerebral cortex of the common ape, the macaque. These are concisely given in the well-known figures of the textbooks. It was an interesting step further when Dr. Beevor and Professor Horsley published eleven years ago their observations on the localisation

of the "motor" functions in the Rolandic cortex of an orang-outang. Their experiment has remained the single one for which an anthropoid species of ape has been laid under contribution. It has exercised a notable influence on the scheme of "motor" localisation adopted as probably obtaining in the brain of man. An experiment upon the brain of an anthropoid ape presents special interest from the two points of view—(1) the cortical organ in these species is, except for man, at its highest development; and (2) it undoubtedly presents that type of development which culminates in man.

Of the three or four species of anthropoid apes that are known, most authorities agree that the gorilla is that which possesses the most highly developed cerebrum; next to it probably comes that of the chimpanzee, and last, but not far below that of the chimpanzee, comes that of *Simia satyrus*, the orang-outang. But there are great individual differences, and the simpler examples of chimpanzee brains seem inferior in development to well-developed examples of the brain of the orang.

We have recently had the opportunity of making physiological experiments on all the known species of anthropoid apes. As it is upon the chimpanzee that we have obtained the larger number of our observations, we will mention first our results upon that type. We have used besides the ordinary chimpanzee (*Troglodytes niger*), the rare variety of which the celebrated "sally" of the Zoo was a specimen, *Troglodytes calvus*—by some considered a separate species.

In the chimpanzee the scheme of topography which we find existent is illustrated. We ask your attention to the extent of the so-called "motor" area presented by it. The extent and arrangement differs considerably from that found by other observers in the lower apes and from that found in the orang by Dr. Beevor and Professor Horsley.

The so-called motor area occupies unbrokenly the whole length of the precentral convolution, and in most places the greater part or the whole of its width. It extends into the depth of the Rolandic fissure, occupying the anterior wall, and in some places the floor, and in some extending even into the deeper part of the posterior wall of the fissure. We have examined 19 hemispheres, but have never found the motor area extend to the free face of the postcentral convolution. At the upper mesial edge of the hemisphere the motor area extends round and down upon the mesial face of the hemisphere; but we have not found it reach the calloso-marginal fissure. The anterior limit of the motor region is, for the most part, not coincident with any fissure. The front portion of the region usually dips into and across the upper part of the superior precentral fissure, and lower down it not infrequently dips into the inferior precentral fissure. Occasionally the front edge of the region dips into almost the whole length of the superior precentral sulcus. It is not the extent of the motor area which appears to be variable; the variant is the sulcus itself. The great variety of individual pattern exhibited by the convolutions and sulci in these richly convoluted brains

gives opportunity for studying critically the claim of value of these fissures as landmarks to the topography of the functional centres of the cortex. From this point of view their use for strict localisation is almost *nil*. Not only are the extremes of pattern exhibited by the convolutions extraordinarily different one from another, but the frequency of the individual variation is so great that hardly a pair can be found in which the existent convolutions are—when compared with the same minuteness as we apply to the functional centres—really closely alike. Professor Schäfer, in his important contribution to the physiology of the motor cortex in 1887, pointed out that the fissures of the cortex do not mark in any sense the boundaries of the functional areas of the organ. Our examination of the considerable number of anthropoid brains we have now worked through convinces us that not only do the fissures of the frontal region not mark physiological boundaries, but that they are not even reliable landmarks to the functional topography, since their relation is too inconstant and variable. The degree of subjection of these fissures to individual variation and the frequency of their asymmetry in the two hemispheres is in striking contrast to the far greater constancy from individual to individual and far greater symmetry of bilateral situation, which we have found hold good for the arrangement of functional centres of the motor region as examined by physiological methods. A practical outcome of this is that we have found it essential for accurately detailed localisation when we have desired the opening through the skull to be kept to a small size, not to trust to the anatomical details of the exposed cerebral surface, but to obtain orientation as to the topography by application of the electrodes and observation of the movement, if any, which was excited. In our early experiments we thought to obtain much help by having at hand an individual brain already experimented upon; and we thought to save time in recording the results of the fresh experiment upon chart outlines prepared from the specimen already worked upon. But the variation of the convolutions from individual to individual has been too great to allow of these expedients being employed. Defeated in this way the only recourse must be to the electrodes. Two landmarks of real value are the genua of the Rolandic fissure.

A matter of some surprise to us has been the ease with which faradism elicits movements from this so-called motor region of the cortex of the anthropoid. It is general belief that for excitation of the cortex in man the intensity of the faradic currents has to be much greater than that effective for the cortex of the monkey. Our predecessors with the orang-outang state that the cortex of that animal required much more intense electric stimuli than the cortex of the bonnet monkey. Their impression was, however, based on no direct comparison. We have actually compared the excitability of the cortex of the anthropoid with that of the bonnet monkey by employing exactly the same current in each case. We find that the excitability as measured by the least intensity of current required to evoke motor reaction is practically the same in the anthropoid and in the lower ape. The motor cortex

of the anthropoid, though undoubtedly far more complex in many ways than that of the lower ape, remains as readily amenable to electric stimulation. If, therefore, it is really necessary to employ intense faradisation for the human motor region that is a difference between the human motor region and that, not only of the lower ape, but of the anthropoid.

A further point cognate to the above on which our experience differs from that of our predecessors regards epileptiform discharge from the cortex. It will be remembered that Dr. Beevor and professor Horsley never observed epilepsy to follow excitation in the brain of their orang, although their electrodes were occasionally kept in contact for five seconds. Though we also find that in some individual anthropoids the tendency for the discharge from the cortex to take an epileptiform character is very slight, yet in other individuals the tendency under apparently the same external conditions is strong. In the majority of the individuals upon which we have experimented, cortical epilepsy has been easily provoked.

Turning to the localisation in the cortex, the sequence of representation starting from below upward follows closely that already known for the lower apes. Broadly speaking, the sequence runs tongue, mouth, nose, ear, eyelids, neck, hand, wrist, elbow, shoulder, chest, abdomen, hip, knee, ankle, toes, perineal muscles, anus, and vagina. It is noticeable that movements of the eyeballs do not appear in this list. As did Beevor and Horsley in the orang, we in the chimpanzee find a frontal area extending into the middle and inferior frontal convolutions, excitation of which gives conjugate deviation of the eyeballs to the opposite side. We find this area separated from the area yielding the other movements by an intervening space of so-called "inexcitable" cortex, as our predecessors found in the orang. We find this intervening space broken, however, by a small area whence movements of the eyeballs can be elicited, which partially bridges between it and the upper facial region on the precentral convolution.

The sequence of representation of movement which we note follows a plan more in accordance with the order of the spinal series of segments than that hitherto obtained, because we find between the representation of shoulder and hip an area which, next to the shoulder, yields unilateral movement of the chest muscles, and next to the hip, yields unilateral movement of the abdominal muscles.

A noteworthy discrepancy between our results and those of our predecessors is regarding the extension of the excitable "motor" region to the free surface of the postcentral convolution. We have seen nothing to lead us to include that surface or any part of it in the "motor" area of any of the anthropoids we have used. In our experience the electrodes, carrying even very strong currents, when placed upon the surface of the postcentral convolution, fail to evoke any obvious effect though when placed, using a weaker current, upon the precentral they evoke extremely widespread movement. I may add also that though small lesions in the precentral convolution cause marked paralyses and descending spinal degenerations, similar and larger lesions in the postcentral produce not even temporary paralysis and no unequivocal degeneration.

With regard to the degenerations, it is noteworthy that from a hand-area lesion the spinal pyramidal degeneration shows in the chimpanzee the feature of a ventral direct pyramidal tract not obviously inferior in size to that of man. On the other hand, a lesion somewhat smaller situate in the region for the ankle and foot produced a pyramidal degeneration in which a direct ventral tract is not obvious. The hand area lesion gave a heavy degeneration of the homolateral pyramidal tract in the lateral column on the same side as the cerebral lesion.

As regards the symptoms resulting from the cortical lesions, the extirpation of a great part, if not of the whole, of the hand area from the right hemisphere caused an immediate severe crossed brachiolegia without the slightest sign of paresis in either face or leg. The paresis affected most the fingers, which were kept helplessly semi-extended, the wrist being dropped. The elbow seemed little, if at all, affected, but the shoulder was distinctly parietic, there being great difficulty in raising or abducting the upper arm at the shoulder. The paresis diminished quite rapidly, and in six weeks time the animal had largely recovered the normal usefulness of the limb.

A lesion in the leg area similarly caused temporary paresis of the opposite leg, especially in the toes and at the ankle joint. The lesion was smaller and the recovery more rapid than with the arm area lesion. It is perhaps noteworthy that the knee-jerk, which showed no alteration under the arm-area lesion, here showed exaltation immediately, that is, a quarter of an hour after the leg-area lesion, and that when the paresis to inspection had passed off the knee-jerk still nevertheless exhibited great briskness on the crossed side.

Although we have used a more minutely localised method of excitation than our predecessors, we have not found in any of our anthropoids those remarkable inexcitable intervals noted by them between the main regional divisions of the area—that is, between the upper and lower facial areas, between the facial and the arm, between the arm and leg.

On the other hand, we have seen often confirmed what our predecessors with the orang have well pointed out, namely, the greater integration of localised representation of movements in the anthropoid as compared with the lower ape. Thus there is not one of the fingers that we have not seen move separately and alone under excitation of certain points of the cortex: again isolated movement of the pinna of the ear, of the tip of the tongue, rare in the lower monkeys are easily obtainable in the anthropoid.

Finally, one word with regard to the extent of the so-called motor area. From our observations we think it probable that perhaps as much of that area lies hidden from the surface in the sulci as actually lies at the free surface on the convolutions. Nevertheless, we endorse the opinion expressed by Beavor and Horsley that the so-called motor area in the anthropoid brain forms altogether a smaller fraction of the total surface than is found in the lower types of monkey. If it has grown in extent—as undoubtedly it seems to have done—other regions belonging to that so-called inexcitable field whence electric stimulation excites no obvious response

have increased still more. It is especially with the exploration of that great inexcitable field that the progress of research has to deal. We cannot help thinking that this progress will have to look for means to the patient combination of clinical and microscopical research rather than to the excitation experiments of the laboratory.

We would call your attention to the fact that the results on the gorilla confirm perfectly those we have obtained on the chimpanzee and orang. This is a matter of interest because many considerations go to show that the gorilla's brain is the highest form of brain excepting only that of man himself.

We have ventured to put before you only the broadest features of the results at present accumulated by us. The detailed collation of our observations may bring out points of interest of a more detailed kind, but the process of collation will be a matter occupying a good deal of time.—*Brit. Med. Journ.*, December 28, 1901.

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HAHNEMANN ON THE EFFECTS OF COFFEE.

(Concluded from Vol. xxi, No. 2, p. 57.)

Man can, no doubt, enjoy a kind of health, though his occupation confines him to the house—or even to one room—even though he has to live a very sedentary life in the room, and his body is delicately constituted, provided he live in other respects conformably with his state. Under the moderate use of only easily digestible, mild, simple, purely nutritious, almost unspiced food and drink, along with a prudent moderation of the passions, and frequent renewal of the air in the rooms, even women, without any great exercise,* enjoy a kind of health which doubtless can be readily compromised by external causes, but which, if these are avoided, may still be termed a moderate degree of health. In such persons the action of all morbid substances, that is, of all medicines, is much more striking and severe than in robust individuals accustomed to labour in the open air, who are able to bear some very hurtful things without particular injury.

These weakly dwellers in rooms live in the low level of their health but half a life, if I may use the expression; all their sensations, their energy, their vital functions, are somewhat below par, and they eagerly resort to a leverage that so powerfully exalts for

* Under such circumstances prisoners also.

some hours their vital energy and their feeling of existence, unconcerned about the results and the secondary action of this palliative.

This secondary action resembles their state before partaking of the coffee, only it is somewhat stronger.

When the few hours of the above described primary action of this medicinal beverage, that representation of artificially exalted vital energy, is gone, there then gradually creeps on a yawning drowsiness and greater inactivity than in the ordinary state, the movements of the body become more difficult than formerly, all the excessive gaiety of the previous hours changes into obtuseness of the senses. If, during the first hours after drinking the coffee the digestion and the expulsion of the excrements were hastened, now the flatus becomes painfully incarcerated in the intestines, and the expulsion of the *scæces* becomes more difficult and slower than in the former state. If, in the first hours, an agreeable warmth pervaded the frame, this factitious vital-spark now gradually becomes extinguished, a shivering sensation is felt, the hands and feet become cold. All external agents appear less agreeable than before. More ill-humoured than ordinarily, they are more given to peevishness. The sexual passion which was excited by the coffee in the first hours becomes all the colder and more obtuse. A kind of speedily satiated ravenous hunger takes the place of the healthy desire for nutriment, and yet eating and drinking oppress the stomach more than previously. They have greater difficulty in getting to sleep than formerly, and the sleep is heavier than it used to be before they took coffee, and on awaking they are more sleepy, more discouraged, more melancholy than usual.

But look! all these evils are rapidly driven away by a renewed application to this hurtful palliative—a new, artificial life commences—only it has a somewhat shorter duration than the first time, and thus its repetition becomes ever more frequently necessary, or the beverage must always be made stronger in order to enable it again to excite life for a few hours.

By such means the body of the person whose occupation confines him to his room degenerates all the more. The injurious effects of the secondary action of this medicinal drink spread farther around, and strike their roots too deeply to allow of their

being again effaced, if only for a few hours, by a mere repetition of the same palliative more frequently or in stronger doses.

The skin now becomes generally more sensitive to the cold, and even to the open air though not cold; the digestion becomes obstructed, the bowels become constipated for several days at a time, flatulence occasions anxiety and causes a number of painful sensations. The constipation only alternates with diarrhœa, not with a healthy state of the bowels. Sleep is obtained with difficulty, and bears more resemblance to a slumber that causes no refreshment. On awaking there are remarkable confusion of the head, half-waking dreams, slowness of recollecting himself, helplessness of the limbs, and a kind of joylessness that throws a dark shade over all God's lively nature. The beneficent emotion of the heart, warm philanthropy, gratitude, compassion, heroism, strength and nobility of the mind, and joyousness, change into pensillanimity, indifference, insensible hardness of heart, variable humour, melancholy.

The use of coffee as a beverage is continued, and sensitiveness alternates ever more with insensibility, over-hasty resolves with irresolution, noisy quarrelsomeness with cowardly compliance, affectation of friendship with malicious envy, transient rapture with joylessness, grinning smiling with inclination to shed tears—symptoms of constant hovering betwixt excitement and depression of the mind and the body.

It would be no easy task for me to indicate all the maladies, that under the names of debility, nervous affections and chronic diseases, prevail among the coffee-drinking set, enervating humanity and causing degeneration of mind and body.

But it must not be imagined that all the evil results I have named occur to every coffee-bibber in the same degree! No, one suffers more from this, another from that symptom of the secondary action of coffee. My description includes the whole coffee-drinking race; all their maladies which arise from this source I have arranged together, as they have from time to time come under my notice.

The palliative agreeable sensation which the coffee distributes for some hours through the finest fibres, leaves behind it, as a secondary action, an extraordinary susceptibility to painful sensations, which always becomes greater and greater, the longer,

the oftener, the stronger and the greater the quantity in which the coffee is drunk. Very slight things (that would make scarcely any impression on a healthy person not accustomed to the use of coffee) cause in the coffee-drinking lady megrim, a frequent, often intolerable toothache, which comes on, chiefly at night, with redness of the face and at length swelling of the cheek—a painful drawing and tearing in different parts of the body, on one side of the face, or at one time in one limb, at another in another.* The body has a special tendency to erysipelas, either in the legs (hence the frequency of old ulcers there) or (when suckling) in the mammae or on one half of the face. Apprehensiveness and flying heat are her daily complaints, and nervous semilateral headache her property.†

From moderate errors of diet and disagreeable mental emotions

* This drawing tearing in the limbs caused by coffee in its secondary action and when its use is persisted in for a long time, is not in the joints, but from one joint to the other. It appears to be more in the flesh or cellular tissue than in the bones, is unattended by swelling or other abnormal appearance, and there is scarcely any tenderness on touching the part. Our nosologists know nothing about it.

† The megrim above alluded to, which only appears after some exciting cause, as vexation, overloading of the stomach, a chill, &c., generally very rapidly and at all times of the day, differs entirely from the so-called nervous hemiplegia. The latter occurs in the morning, soon or immediately after waking, and increases gradually. The pain is almost intolerable, often of a burning character, the external coverings of the skull are also intolerably sensitive and painful on the least touch. Body and mind seem both to be insufferably sensitive. Apparently destitute of all strength, they seek a solitary and if possible dark spot, where, in order to avoid the daylight, they pass the time with closed eyes in a kind of waking slumber, usually on a couch raised in the back, or in an arm chair, quite motionless. Every movement, every noise increases their pains. They avoid speaking themselves and listening to the conversation of others. Their body is colder than usual, though without rigor; the hands and feet in particular are very cold. Everything is distasteful to them, but chiefly eating and drinking, for an incessant nausea hinders them from taking anything. In bad cases the nausea amounts to vomiting of mucus, but the headache is seldom alleviated thereby. The bowels are constipated. This headache almost never goes off until evening; in very bad cases I have seen it last thirty-six hours, so that it only disappeared the following evening. In slighter cases its original producer, coffee, shortens its duration in a palliative manner, but it communicates to the system the tendency to produce it after a still shorter interval. It recurs at undetermined times, every fortnight, three, four weeks, &c. It comes on without any exciting cause, quite unexpectedly; even the night previously the patient seldom feels any premonitory signs of the nervous headache that is to come on the next morning.

“ I have never met with it excepting among regular coffee drinkers.

there occur painful affections of the chest, stomach and abdomen (known by the inaccurate name of *spasms*)—the catamenia come on with pains, are not regular, or the discharge is less copious and at length quite scanty ; it is watery or slimy ; leucorrhœa (generally of an ærid character) prevails almost the whole time, from one period to another, or completely supersedes the menstrual flux—coition is often painful. The earthy, yellowish or quite pale complexion, the dull eye surrounded by blue rings, the blue lips, the flaccid muscular tissue, the shrivelled breasts, are the external signs of this miserable hidden state. Sometimes the almost suppressed menses alternate with serious uterine hemorrhages. In males there occur painful hemorrhoids and nocturnal emissions of semen. In both sexes the sexual power becomes gradually extinguished. The normal exuberant energy of the embrace of a healthy couple becomes a worthless bagatelle. Impotence of both sexes and sterility, inability to suckle a child, ensue.—The monster of nature, that hollow-eyed ghost, onanism, is generally concealed behind the coffee-table (though indulgence in the perusal of meretricious novels, over-exertion of the mind, bad company and a sedentary life in close apartments, contribute their share).

As an inordinate indulgence in coffee has for its secondary effect to dispose the body greatly to all kinds of disagreeable sensations and most acute pains, it will be readily comprehended how it, more than any other hurtful substance we are acquainted with, excites a great tendency to caries of the bones. No error of diet causes the teeth to decay more easily and certainly than indulgence in coffee. Coffee alone (with the exception of grief and the abuse of mercury) destroys the teeth in the shortest space of time.* The confined air of a room and overloading the stomach (especially at night) contribute their share to this effect. But coffee by itself is quite capable of destroying in a short space of time this irreparable ornament of the mouth, this indispensable accessory organ for distinct speech and for the intimate mixture of the food with the digestive saliva, or at least of rendering them black and yellow. The loss of the front (incisor) teeth is chiefly due to the abuse of coffee.

If I except the true *spina ventosa*, there occurs scarcely a single case of caries of the bones in children (if they have not been over-

* Observations on which I can depend have convinced me of this.

dosed with mercury) from any other cause than from coffee.* Besides these, there are in children other deep-seated flesh abscesses that take a long time of bursting and then have but a small orifice, which are often solely to be ascribed to the action of the coffee.

As a rule, coffee acts most injuriously on children; the more tender their age, the worse its effects. Although it is incapable of itself of producing true rickets, but can only accelerate them in conjunction with their special exciting cause (food composed of unfermented vegetable substances, and the air of close, damp rooms), yet it of itself excites in little children, even when their other food is wholesome and the air in which they live good, a kind of infantile hectic, which is not much less sad in its results. Their complexion becomes pale, their muscles quite flaccid. It is only after a long time that they learn to walk a little, but then their gait is uncertain, they easily fall, and wish always to be carried. They stammer in their speech. They wish for a great variety of things, but relish nothing heartily. The drollery, happiness and liveliness that characterize the age of childhood are changed into indolent dejection; nothing gives them pleasure, nothing makes them contented; they enjoy only a sort of half life. They are very easily startled, and timid. Diarrhœa alternates with costiveness. Viscid mucus rattles in their chest as they breathe, especially when they are asleep, which no amount of coughing can remove: they have always got a wheezing at the chest. Their teeth come with much difficulty and with convulsion fits; they are very imperfect, and fall out decayed before the period for changing them arrives. Mostly every evening, just before bed-time or after lying down in bed, they get redness and heat on one or both cheeks. They sleep very imperfectly, toss about at night, often want to drink; they then perspire, not only on the forehead, but also on the hairy scalp, particularly at the back of the head, and whine and moan in their sleep. They get through every disease with difficulty, and their recovery is very slow and imperfect.

* These ulcerations of the bones, which lie concealed beneath elevated, hard, bluish-red swellings of the soft parts, exude an albuminous looking mucus, mixed with some cheese-like matter. It has very little smell. The pains of the affected parts are very shooting in their character. The rest of the body presents a pure picture of the coffee dyscrasia.

They are frequently subject to a chronic inflammation of the eyes, not unfrequently accompanied by an eruption in the face, along with a peculiar relaxation of the upper eyelid, which prevents them raising it, even when the redness and swelling of the lids are but moderate. This kind of ophthalmia, that often lasts for several years, making them frequently lie upon the face, with constant peevishness and crying, or conceal themselves in a dark place where they remain lying or sitting in a stooping posture: this ophthalmia, I say, chiefly affects the cornea, covers it with red vessels and at last with dark spots, or there occur phlyctenulæ and little ulcers on it, that often eat deeply into the cornea and threaten blindness.

This ophthalmia and that rattling at the chest and the other ailments above described, attack even infants at the breast, who take nothing but their mother's milk, if the mother indulges in coffee and inhabits a close room. How penetrating must not the hurtful power of this medicinal beverage be, that even infants at the breast suffer from it!

After children, coffee acts, as I have said, most injuriously on the female sex, and on literary people whose occupation is sedentary, and confines them to their rooms. To these may be added workmen engaged in a sedentary trade.

The bad effects of coffee are, as I have above mentioned, most effectually diminished by great activity and exercise in the open air—but not permanently removed.

Some individuals also find out as if by instinct, a sort of antidote to coffee in the use of spirituous liquors. It is impossible to deny that they do possess some antidotal powers. These are however, mere stimulants, without any nutritive quality; that is to say, they are likewise medicinal substances, which, when daily used as articles of diet, produce other injurious effects, and yet are unable to prevent the hurtful action of the coffee from taking effect,—what they cause are artificial ameliorations of the vital functions, followed by morbid effects, though of a different, more complex nature.

Leaving off the use of coffee * is the chief remedy for these insi-

* It is by no means easy to do away with an inveterate habit of using coffee.—I first endeavour to convince my patients seriously of the urgent and indispensable necessity of discontinuing its use. Truth grounded on obvious experience

dious and deeply penetrating injurious effects, and corporeal exercise in the open air tends to promote the subsequent recovery. If however body and mind be sunk too low, there are some medicines very useful for that state, but this is not the proper place to enumerate them, as I am not at present writing for medical men. When I describe the daily use of coffee as very prejudicial, and when I shew from observations and experience of many years that it relaxes and withers the energy of our body and mind, some may retort upon me the appellation "medicinal beverage," which I must unhesitatingly bestow upon coffee.

"Medicines are surely wholesome things," says the uninitiated. They are so; but only under certain indispensable conditions. It is only when the medicine is suitable for the case that it is wholesome. Now no medicine is suitable for health, and to employ a

seldom fails to produce conviction—almost never, when it is urged from the philanthropic heart of a physician, who, convinced himself of the goodness of his cause, is thoroughly penetrated by the truth of his maxims. Nothing will then prevent their reception, there is no question of any private interest on the part of the doctor; and nothing but pure gain on the side of the party he wishes to convince.

If we have attained this object (whether this is the case or no, he who has a knowledge of human nature can tell by the way the patient receives his advice), we may advise that the quantity of coffee taken be reduced by a cup every three or four days, and allow the last breakfast-cup to be continued for a week longer, until this can either be left off at once, or it may be continued on every alternate day, for another week, according to circumstances.

If we have to do with persons on whom we can rely, the affair is managed in the course of four weeks. But should some faint-heartedness or indecision on the part of slaves to coffee make its accomplishment difficult, or should the weak state of the health make its discontinuance be too severely felt, we would do well for every cup of coffee we take away, to allow a cup of tea to be drunk, until in the course of a week nothing but tea (a similar but lesser evil) is drunk, and this, as it has not had time to become a habitual beverage, may be more easily diminished, until at last nothing more of the sort is taken, but only a couple of cups of warm milk for breakfast, in place of coffee or tea.

Whilst thus breaking off the habit, it is indispensable that the body be refreshed and strengthened by daily walks in the open air, by amusements of an innocent character, and by appropriate food, if we wish that the injurious effects of the coffee should disappear, and the individual be confirmed in his resolution to give it up.

And if all goes on well, it will not be a bad plan for the doctor, or a friend in his stead, to assure himself from time to time of the true conversion of his patient and if necessary, uphold his resolution, when the force of example in company seems to cause it to waver.

medicine as a beverage in the ordinary healthy state, is a hurtful procedure, a self-evident contradiction.

I prize the medicinal powers of coffee when it is appropriately employed as a medicine, as much as those of any other medication. There is nought superfluous in God's creation; every thing is created for the weal of mankind, particularly the most powerful things, to which class coffee belongs in an especial degree. But let the following facts be borne in mind.

Every single medicine develops in the healthy human body some special alterations, that are peculiar to itself exclusively. When these are known, and when the medicine is employed in cases of disease that have an almost exact similarity with the alteration that the medicine is capable of itself producing (in the healthy body), a radical cure takes place. This employment of the medicine is the *curative* one, the only one to be relied on in chronic diseases.

In speaking of this power of a medicine to alter the human body in a manner peculiar to itself, I allude to its primary or initiatory action. I have said above that the primary action of a medicine (for some hours after it has been taken) is the direct opposite of its secondary action, or the state in which it leaves the body whenever its first action is past.

Now if the primary action of a medicine be the exact opposite of the morbid condition of the body we seek to cure, its employment is *palliative*. Almost instantaneous amendment ensues,—but a few hours afterwards the malady returns and attains a greater height than it had before the employment of the remedy; the secondary action of the medicine, which resembled the original disease, aggravates the latter. A miserable method of treatment when we have to do with a chronic malady.

I shall give an example. The primary action of opium in the healthy system is to cause a stupefying snoring sleep, and its secondary action—the opposite—sleeplessness. Now if the physician will be so foolish as to treat a morbid, habitual sleeplessness with opium, he acts in a palliative manner. The stupid, snoring, unrefreshing sleep speedily follows the ingestion of the opium, but its secondary action, as I have stated, is sleeplessness, an addition to his already habitual sleeplessness, which is now accordingly aggravated. Twenty-four hours afterwards the patient sleeps still less than before he took the opium; a stronger dose of the latter must now be given, the secondary action of which is a still greater sleeplessness, that is, an aggravation of the malady, which the foolish man imagined he was curing.

In like manner, coffee proves a bad palliative remedy when it is used as a medicinal agent, for example, in cases of habitual

constipation proceeding from inactivity of the bowels*—as is often done by medical men. Its primary action is, as I have before stated, the reverse of this state,—it therefore acts here as a palliative, and if it be used for the first time, or only on rare occasions, it speedily produces a motion of the bowels, but the following days, under the secondary action, the constipation becomes all the greater. If we again seek to remove this in the same palliative manner by means of coffee, more of it must be drunk, or it must be made stronger, and still the habitual constipation is not thereby eradicated, for it always returns more obstinately on the recurrence of the secondary action of the coffee, whenever this palliative administration of the coffee is discontinued, or stronger and more frequent potations of it are not taken which always aggravate the disease and entail other maladies.

It will be found that the medical excuses offered by coffee-drinkers in justification of this habit almost all rest on some such palliative relief it affords them, and yet nothing is more certain than the experience that a long-continued palliative employment of a drug is injurious, but the palliative employment of drugs as articles of diet is the most injurious of all.

Therefore when I, whilst deprecating its abuse as an every-day beverage, commend the great medicinal virtues of coffee, I do the latter merely in reference to its *curative* employment for chronic ailments that bear a great resemblance to its primary action,† and in reference to its *palliative* employment in acute diseases threatening rapid danger, which bear a great resemblance to the secondary effects of coffee.‡ This is the only rational and wise mode of employing this medicinal beverage which is abused by hundreds of millions of individuals to their hurt, is understood by few, but which is extremely wholesome when used in its proper place.

* As is usually the case with those who lead a sedentary life in their room.

† For example when, in a person unaccustomed to the use of coffee, there is present (it may be a habitual) indisposition, composed of a frequent, painless evacuation of soft feces and frequent inclination to go to stool, an unnatural sleeplessness, excessive irritability and agility, and a want of appetite and thirst, but without any diminution of the perception of the flavour of food and drink, in such a case coffee will, must effect a radical cure in the course of a short time. In like manner it is, in the frequently dangerous symptoms brought on by a sudden, great, joyful mental emotion, the most suitable, trustworthy, curative medicine, and also in a certain kind of labour-pains, which bear much resemblance to the primary effects of coffee.

‡ The following are examples of the excellent palliative employment of coffee in diseases that come on rapidly and require speedy relief: sea-sickness, poisoning by opium in those unaccustomed to the use of coffee, poisoning by veratrum album, the apparent death of drowned, suffocated, but especially of frozen persons, as I have frequently had the satisfaction of witnessing.

REVIEW.

A Dictionary of Practical Materia Medica By John Henry Clarke, M.D. In two Volumes. Vol. I. pp. 951, Vol II. (in two parts), pp. 1613. The Homœopathic Publishing Company, London, 1902.

IN our short notice of the first volume of this work in our Journal for October 1901 we said: "If the second volume is as good as the first then the author has succeeded in producing a *Materia Medica* which will for many years remain the most complete of our school." And we further said: "The work is more than a dictionary. It is an encyclopædia." The opinion thus expressed has been fully borne out by the appearance of the second volume, the receipt of which we here acknowledge with thanks to the author and no less to the publishers for the excellent getting up of the volumes.

There has been considerable delay, no less than of eighteen months, in the issue of the second volume after that of the first, the date of the preface to Vol. I. being July 4, 1900 and that of the preface to Vol. II., December 18, 1901. The author has, in his own review of his work in the *Homœopathic World* for January, given satisfactory reasons for the delay, and we may allow him to say: "I think now that subscribers have the completed work before them, they will grant that I have not tried their patience in vain. I almost think they will agree that the 'shortly' which my sanguine publishers announced as the time Vol. II. might be expected is justified by the event."

The author did not expect that the second volume would reach nearly double the dimensions of the first, so that for binding purposes he would be compelled to divide it into two parts; hence the work really consists of three volumes instead of two as originally announced. This has entailed an additional expense which was not contemplated when the subscription price was fixed on the supposition that the two volumes would be of equal size. While this has been a distinct gain to subscribers, it has caused considerable loss to the author, which we trust will be made up by a rapid sale of the whole of this first edition.

The plan of the work is excellent and has been fully explained in the Preface. The author has succeeded in so presenting "the

picture of each remedy that it may be at once recognized and distinguished from any other by those who consult its pages."

We have first the name of each remedy with its synonyms, its habitat, its place in nature (i.e. the natural order to which it belongs in case it is a vegetable or an animal drug), its chemical composition (especially if a mineral) whenever ascertained, and the preparations of it that have been used. This knowledge is not superfluous and should be in the possession of every true physician.

We have next the heading "Clinical," under which has been given "an *alphabetical* list of the diseases in relation to which the remedy has manifested, or seems likely to manifest, some curative power, which is intended to be regarded rather as suggestive than as inclusive or exclusive.

Next we have the heading "Characteristics" which forms the most valuable part of the work, in which we find displayed the author's extensive reading and his equally extensive and valuable experience as a practical physician who has profited by his experience. He tells us truly: "It is not a bare list of keynote symptoms, although it includes all of these that are known to me. But it is written in a more or less connected, narrative form, so that it will not have the effect of a catalogue on the reader's mind." It contains the leading *conditions* of aggravation and amelioration so essential to a practical knowledge and understanding of the homœopathic materia medica.

Then follows the heading "Relations" under which is given the chief allies including the antidotes of each remedy. The importance of this section is thus given by the author: "When a remedy (*e.g.*, Belladonna) has done all that it can in a case, it is of very great use to know of a remedy (*e.g.*, Mercurius) that is likely to follow out and complete its action, where both are related to the case. When this relationship is very close the two related remedies are said to be *complementary* to one another, as is the case with Iodine and Lycopodium. On the other hand some remedies have a very injurious effect on each other's action when one is given immediately after the other. I have known a chronic case which was doing well on Calcarea, irretrievably spoiled by a prescription of Bryonia immediately following. Further it is necessary to know the antidotal relations of remedies

in order to be able to control the over-action of any remedy administered. I once experienced very disagreeable symptoms from a dose of *Natrum mur.* in potency, and suffered for some days before I realized the cause. As soon as I did, I looked up *Jahr*, and found that smelling Sweet Nitre was one of the antidotes. I put it to the test, and the magical way in which the symptoms were wiped out was a revelation to me of the importance of this branch of homœopathic knowledge. In this section I have also pointed out many of the characteristic differences distinguishing between medicines that have symptoms in common."

Whenever the action of a remedy has been found to be particularly suited to the effects of a particular causal circumstance this relation has been indicated under the heading "Causation." For obvious reasons this heading is not found under every remedy. The importance of this relation of suitability of remedial agents to the causation of morbid conditions is observable in daily practice, and has been recognized almost from the dawn of Homœopathy. "A case of Rheumatism," as the author says, "supervening on a wetting, will probably not be cured by the same remedy which would have cured if exposure to *dry* cold had been the cause. The effects of over-eating may resemble the effects of over-drinking, but a different remedy will probably be needed in each case. Shock due to physical injury will probably need *Arnica*; if due to fright, opium will most likely be called for."

Last of all we have the heading "Symptoms," given in a schematised form arranged under 27 numbered headings, which will be found but slightly different from the schema adopted by Hahnemann. In the case of imperfectly proved drugs some of the headings are wanting, and from the absence of the corresponding numbers it will be easy to see under what heads symptoms have not been observed.

We give the following specimen, taking at random one of the shortest articles, to show how the plan above sketched has been worked:

Anhalonium Lewinii.

Mescal buttons. *N. O.* Cactaceæ. Tincture, extract, or infusion. Havelock Ellis says: "I first cut up the buttons into small fragments and poured on boiling water twice; a single infusion is inactive."

Clinical.—Brain-fag. Delirium. Headache. Hallucinations. Megrin. Mental weakness. Neurasthenia. Paraplegia. Senses, disordered. Visions, disorders of; coloured.

Characteristics.—The plant from which the mescal buttons are obtained grows in barren and rocky soil in the valley of the Rio

Grande. It is used by some Indian tribes in their religious ceremonies. It has been recently tested scientifically, a notable proving having been made by Dr. Wier Mitchell. Dr. E. M. Hale has collected the facts about the drug in an article published in the *Hahnemannian Monthly*. The chief feature of the drug's action is the production of coloured visions of most over-powering brilliancy, associated with moving shapes of fantastic design, the motion being regulated somewhat in time by music. In the Indian ceremonies the constant beating of tom-toms is an essential feature. Other symptoms are loss of conception of time, occipital headache, tired feeling in head, nausea. Tremor of muscles, increased knee-jerk, and loss of power of co-ordination. One prover, Havelock Ellis, noted distinct slowing of the pulse, slight faintness and shallow breathing; but there were none of the terrible heart symptoms of the other Cacti. The most prominent condition is < on closing eyes. The nausea and faintness were < on movement. There is great disinclination to move. > Lying down.

Relations.—*Compare*: Can. ind. (time sense disordered; fantastic visions); Gelsem. (paralysis of accommodation); Bell., Stram., Op., Pic. ac., Piper methyst., Coffea, Coca; Plat. (objects seem small and distant); Pso. (> lying down).

SYMPTOMS.

1. Mind.—Reverie.—Time seems long; intervals between words and sentences seem inordinately long.—Cannot find the right word, with difficulty of enunciation.—Seems to have a double personality.—Distrust and resentment; thinks companions are laughing at him; wants to do them violence.—Consciousness of unusual energy and intellectual power (which, when tested, was found not to actually exist).—Sense of superiority and well-being.—Sense of depression and inferiority.

2. Head.—Frontal (1.) headache with visual zigzags.—Occipital headache, with disturbed vision.—Persistent ache and tired feeling in occipital region (lasting several days and making work impossible).—(It rapidly removed headache in one prover.)

3. Eyes.—Vision in all colours, moving, fantastic, of surpassing brilliance, in designs (sometimes grotesque), moving scenes, dances; affected by beating time; dissipated or modified by opening the eyes; partly under control by an effort of thought.—Natural objects seem more brilliant, shadows deepened, flickering of lights greatly exaggerated.—Pupils dilated.—Accommodation impaired.—Ptosis.

4. Ears.—Impressions of sound and visions heightened by any marked stimulation of skin.—Exaggerated reverberation of ordinary sounds.

5. Nose.—The air seemed filled with vague perfume.—Smell blunted; could not tell whether or not tincture of asafœtida was a perfume.

6. Face.—Disinclined to make the slightest movements; eyelids droop; they scarcely move the lips and jaws in articulating.

8. Mouth.—Great difficulty in talking, partly from paralysis of the tongue, partly from slowness of thought.

11. Stomach.—Nausea ; < on movement ; entirely > on lying down.

19. Heart and Pulse.—Pulse slow.—Respiration slow.—Faintness.

23. Lower Limbs.—A fine tremor in lower extremities.

24. Generalities.—Motor inco-ordination.—Extreme muscular depression ; don't want to stir ; whole body feels relaxed.—Lazy contentment ; “a land where it is always afternoon.”—Fine tremor in lower extremities prelude the visions ; unable to walk without assistance ; can with difficulty sit up.

26. Sleep.—Drowsiness ; followed by consciousness of unusual energy.

The symptoms of the Schema have of course been chiefly derived from provings, and the author, in this anxiety to render his work as complete as possible, has availed himself of all provings that have been published or furnished to him. No wonder that a few of these provings should have proved to be of a problematic or suspicious character, as we find in the case of some Indian drugs, the so-called provings of which were palmed upon him as genuine stuff by the “Prover” in the exuberance of his ambition to be immortalized as a discoverer. But these solitary suspicious provings, being scarcely more than two or three, cannot, we can assure our Indian readers, detract from the value of the work which is literally immense.

The fact of cured or clinical symptoms having been included in the Schema, has been thought by the purists of our school to really detract from the value of the work. To these who have scruples about prescribing on clinically observed symptoms, the author refers to the *Cyclopedia of Drug Pathogenesis*, of which he speaks as having rendered him excellent service in compiling much of his *Dictionary*, but which, he very truly observes, “needs digesting and schematising if it is to be of much use in daily practice.”

The author gives the following reasons for including *clinical symptoms* without always distinguishing them from genuine pathogenetic ones : “I know that symptoms removed by a remedy in a patient who is taking it are an indication of the remedy's power, even though the remedy may not have produced those symptoms in a prover. I know that many of the best

indications we possess for different remedies were found out during the provings by the disappearance of symptoms from which the provers themselves were at the time suffering. I *know* that a remedy when being taken by a patient will often produce some new symptoms of its own whilst removing the others. I *know* that these new symptoms are available for practice: and what is more than this, I know that the practitioner who cannot recognise drug symptoms in his patients loses the best materia medica teacher he is ever likely to find, and will spoil many of his cases by supposing them worse when they are really doing well on the right medicine and only require to have the medicine suspended or partially antidoted." From our experience of over thirty-five years we can bear testimony to the general truth of the above assertions. Cases, we must say, do however turn up in which new symptoms developed by a drug cling with tenacity to the injury of the patient notwithstanding the discontinuance of the drug, or the administration of suitable antidotes. Nor is it always easy to determine whether the removal of symptoms during the administration of a drug is an effect of the drug, or is a result of the natural course of the disease.

While the work is essentially homœopathic and is designed chiefly for homœopathic practitioners, a glance at the volumes will show, what the author himself has boldly declared, that he has not strictly limited himself to the homœopathic use of remedies: "My object," says he, "has been to depict them as *powers*—in *all* their aspects—and thus to present my readers with the *freedom of the materia medica* so to speak. The materia medica is big enough to occupy the talents of all sorts and conditions of practitioners; and it has been my endeavour to present the facts observed with the remedies in such a way that they may be available for use by every type of mind that may choose the art of Healing as the field of its operations. *Practice* is the thing I have sought to cater for: I have sought to show what has been *done* with each remedy, and why the remedy was selected for its work."

The magnitude of the task undertaken and so well finished by Dr. Clarke will be realized when we state that over 1000 distinct remedies have been treated of in the thorough manner of which we have already given an idea. The *Dictionary* is not only a work of reference but for daily study, and no practitioner should be without it.

EDITOR'S NOTES.

New Asylum for Lancashire.

The new asylum at Winwick, near Warrington, erected by the Lancashire Asylums Board for the reception of 1,000 males and 1,000 females, with accommodation for 200 attendants, was informally opened last week, and was taken into use on Monday last. Dr. J. F. Gemmel, lately Senior Assistant Medical Officer, Lancaster Asylum, has been appointed Medical Superintendent of the new asylum. The cost, including site and equipment, has been about £200 a bed.—*Brit. Med. Journ.*, Jan. 11, 1902.

Anopheles in a Region from which Malaria has Disappeared.

Sergeant (*Ann. de l'Inst Pasteur*, October 25th, 1901) has found *Anopheles* in large numbers along the banks of the Essonne, where malaria was once common, but from which it has now disappeared. Larvæ were in the low-lying country near the river, and often in the artificial reservoirs. He discusses the question of the cause of the disappearance of malaria coexistent with the persistence of the specific mosquitos. He considers it due to the following causes acting simultaneously: Drainage and planting of the river banks, improved hygiene, and, to a certain extent, the use of quinine. He looks upon the presence of *Anopheles* as a danger to the inhabitants, soldiers and others coming from malarious districts, and infected with the hæmamoeba might distribute the latter by infecting the *Anopheles*.—*Brit. Med. Journ.*, Jan. 11, 1902. •

Dangerous Circulars.

- In commenting upon the methods adopted by certain people in selling shoddy jewellery *Truth* recently referred to the practice of leaving handbills from door to door, the advertiser calling for them after a certain lapse of time. That this is not an isolated instance of a reprehensible method of advertising we have proof in the fact that a few weeks ago we found in a letter-box a ragshop circular half of which was soaked in grease and the other half covered with dirty finger marks. It was subsequently called for. We have also in our possession the circular of a marine stores dealer, a term which the wording of the circular shows to be synonymous with "ragshop keeper," bearing the words, "please show this to the Master or Mistress and return it only to when he calls." We do not state positively that disease has been spread by this practice, but at a time when small-pox and other diseases of an infectious nature are prevalent no stone should

be left unturned in seeking to eliminate every possible cause of infection. Such handbills should be burnt as soon as they are found, and the man when he returns should be told that this has been done. Medical men might do a great deal by warning their patients against the danger of returning these handbills, especially when there is illness in a house, and if the measure which we have suggested be adopted it will generally be found to be effective.—*Lancet*, Jan. 4, 1902. .

Traumatol in the Treatment of Suppurative Proctitis.

In the *Gazette des Hôpitaux* of Nov. 14th, 1901, M. Suzor calls attention to the value of traumatol in the treatment of suppurative proctitis. He has used this drug for several years in the dressing of wounds; it is less odorous than iodoform and also appears to have the advantage of superiority in drying up purulent secretion and hastening cicatrisation. He reports two cases in which iodoform failed and traumatol brought about rapid cure. In one a woman, aged 36 years, who was addicted to morphia, suffered from obstinate constipation which had caused rectal irritation and for more than a year profuse suppuration. Treatment consisted in various antiseptic douches followed by iodoform suppositories. Only diminution in the suppuration resulted. Traumatol powder, about a gramme, was insufflated twice a day after administering a large enema. The result was remarkable: complete recovery ensued in eight days. In the second case a man, aged 35 years, had suppurative proctitis with anal fistula. The proctitis persisted after the operation for, and relief of, the fistula. Traumatol suppositories were used, but the result was imperfect. After eight days insufflations of traumatol powder were used and the suppuration disappeared in six days.—*Lancet*, Jan. 4, 1902.

Kissing the Book.

We have over and over again in these columns pointed out the dangers of the uncleanly habit of kissing the book of the Gospels when taking an oath. Over and over again, too, have we pointed out that by Section 5 of the Oaths Act of 1888 if any witness desires to swear with uplifted hand in the form and manner in which an oath is usually administered in Scotland he shall be permitted to do so, and the oath shall be administered to him in such form and manner without further question. Many persons are ignorant of this relieving clause, nay, even county-court judges have refused to allow witnesses to be sworn in this manner. His Honour Judge Einden and Mr. Justice Byrne have both called attention to the clause, and the former judge has caused notices to its effect to be posted in conspicuous places in his

court. The Attorney-General stated in Parliament that such a notice was posted in every court, if so, we cannot say that they are conspicuous. We do not believe that there is any legal compulsion for a witness to kiss the book at all, and we think it is simply a custom which has grown up no one knows how. The old form of oath was to lay the hand upon the book and to say, "So help me God and these Holy Evangelists." This form might well be restored, or if such an appeal were to give offence to Scotsmen, why should not the form and manner in which an oath is usually administered in Scotland be made the form also usually administered in England? The Government might well bring in a Bill to this effect when Parliament meets. But in the meantime every witness, and more especially every medical witness, should exercise his undoubted right and demand to be sworn in the Scotch fashion.—*Lancet*, Jan. 4, 1902.

Foreign Body in the Stomach.

Tuffier (*Bull. et Mém. de la Soc. de Chirurg.*, No. 36, 1901) reports a case in which Kallionzis of Athens successfully removed by gastro-tomy a fork between 8 and 9 inches in length, which had remained in the stomach of a young man seventy-eight days without causing any troublesome symptoms. Attention was directed in the comment on this report to the frequent absence in such cases of pain and serious symptoms, and to the necessity, notwithstanding this tolerance of a large foreign body by the stomach, of prompt surgical intervention for the removal of such body; the external incision to be made directly over a projecting part, if such can be felt, and in the middle line when there is no external indication of its presence. The mortality of gastro-tomy for the removal of foreign body, which, according to recent statistics, is calculated to be 20 per cent, may, it is held, be reduced in future practice by early diagnosis and immediate operative treatment. In the discussion reference was made to a remarkable case published by Le Dentu in 1889, in which a wooden spoon measuring about 11 inches in length, supposed to have been swallowed by a young man, was found after an interval of twenty-three hours lying loose in the abdominal cavity. The stomach was opened in the first place, but no traces of irritation set up by this body, nor any perforation, could be found during the operation. In a subsequent meeting of the Société de Chirurgie Le Dentu dealt at some length with the criticisms on the report of his case, and gave his own interpretation of what at the former meeting had been designated as the mysterious passage of the foreign body.—*Brit. Med. Journ.*, Feb. 1, 1902.

The so-called "Fatty Heart."

C. Hirsch (*Münch. med. Woch.*, November 19th, 1901) gives an account of the present-day teaching of the conditions generally known as "fatty heart." He quotes Stokes in order to clear up many points notably those of the question whether true fatty degeneration of the cardiac muscle produces the symptoms which commonly are believed to be due to fatty heart, and whether fatty infiltration of and fat deposit around the organ produce these symptoms. He advises others interested in this subject to read Stokes in the original, as few authors have been so mutilated as he by those who cull from his pages, or make quotations to suit their new ideas. Summing up the doctrine of the condition he states: (1) There is no such disease *sui generis* as fatty heart. Leyden expressed the condition well in describing it as "heart complaints of fat people." (2) The heart complaints are of various kinds and depend on various causes. (3) When appearances of heart weakness occur in young, muscularly weak, fat subjects (under 40 years of age), these may be explained by a disproportion between body mass and heart power; at the same time one must realise the coronary sclerosis, and severe functional disturbances may be causal. (4) When dealing with muscular fat people with insufficiency of the heart muscle, one should in the first place seek for anatomical or severe functional changes. These are usually arterial sclerosis, kidney changes, changes in the splanchnic vessels, and chronic myocarditis.—*Brit. Med. Journ.*, Jan. 18, 1902.

The Chemistry of the New Postage-stamps.

The nature of the colouring matter used for distinguishing the values of postage-stamps is, as we have pointed out before, a matter of some importance, for, however dangerous the dirty practice of licking stamps may be proved to be the convenience of possessing a moist tongue for the purpose cannot be resisted by most people. That the habit has its dangers is no hypothesis. Blood-poisoning has without the slightest doubt been traced to licking an infected postage-stamp, and the chances of a postage-stamp becoming infectious are obviously abundant. We may at least expect the postal authorities to avoid as far as possible the use of doubtful colouring materials on stamps and we have reason for believing that considerable care is exercised to secure this desirable result. This year it was decided to revert to red as the distinguishing colour of the penny stamp, and all the new stamps bear the portrait of His Majesty the King. In the particular instance of the new penny stamp the colour, as we find by

experiment, is admirably adapted for the purpose. We have been able to recognise it as one of the innocuous aniline reds, which is peculiarly resistant to atmospheric action or the action of moisture. Indeed, strong acids disturb it but little. We could find no injurious matters present, no irritant or metallic poison. The new halfpenny stamp, we find, is coloured with similar innocent materials to those which we found on a previous occasion. The adhesive material is dextrine or British gum in all instances. From a chemical standpoint, therefore the postage-stamps are not likely to prove poisonous, although in giving this opinion it is well to iterate that infection from septic matter must always remain a strong possibility (when it is considered how postage-stamps are handled and how they are left lying about, frequently under an undesirable environment), so long as the habit of licking them is persisted in.—*Lancet*, Jan. 4, 1902.

Poisoning by Acetanilid.

Brown (*Amer. Journ. of the Med. Sci.*, December, 1901) records the symptoms of poisoning by acetanilid, and gives a long account of the blood changes and other symptoms. A typical case is cited of a man aged 37, who had taken a dose of 60 grains of the drug, which had been dispensed in 6 powders for headache. The symptoms which followed were slight delirium, headache, and pain in the left side of the abdomen (descending colon). Temperature 100.2° F., pulse 78, marked constipation, jaundice, nausea, and vomiting. Calomel was given in small doses and followed by salts, after which copious and bloody stools were passed. Urine was strongly alkaline, dark red, specific gravity 1016, with abundance of albumen. Granular epithelial casts were also present, but there was no biliary colouring matter. The spectroscope showed the presence of hæmatoporphyrin. Next day there was marked suppression of urine, only 150 c.cm. being obtained. Milk given by the mouth was repeatedly vomited up. Intense prostration with low delirium followed, the pupils were dilated and sluggish, the temperature fell to subnormal, and there was unconsciousness of surroundings. There was alternate constipation and diarrhæa, and 48 hours before death the fæces constantly showed blood pigment, blood clots, and corpuscles. The skin was very jaundiced, and large shreds of mucous membrane were passed *per rectum*. The rectal temperature sank to 99.5, and he died on the seventh day after admission. Saline injections *per rectum* were well retained only in the early stages. The blood showed destruction of red corpuscles, poikilocytosis, as in pernicious anæmia, and an increase of nucleated red cells. Hæmoglobin was 40.35, and 32 per cent. of normal on successive days. No

lesions could be detected in the alimentary canal sufficient to account for the profuse hæmorrhage. Dark-green mucus was found but no hæmorrhagic spots.—*Brit. Med. Journ.* Feb. 1, 1902.

The Endowment of Research in America.

The Carnegie Institution is the name of the Corporation recently endowed by Mr. Andrew Carnegie with 10,000,000 dollars. The fund is to be under the charge of a Board of Trustees, among whom are the President of the United States, Dr. J. S. Billings and Dr. S. Weir Mitchell. The purpose of the institution, as set forth by Mr. Carnegie himself, is to found in the city of Washington, in the spirit of Washington, an institution which, with the co-operation of institutions now or hereafter established there or elsewhere, shall, in the broadest and most liberal manner encourage investigation, research, and discovery; encourage the application of knowledge to the improvement of mankind; provide such buildings, laboratories, books, and apparatus as may be needed, and afford instruction of an advanced character to students, whenever and wherever found, inside or outside of schools properly qualified to profit thereby. Among its definite aims are to promote original research; to conduct, endow, and assist investigation in any department of scientific literature or art, and to this end to co-operate with governments, universities, colleges, technical schools, learned societies, and individuals; to appoint committees of experts to direct special lines of research; to publish and distribute documents, to conduct lectures, and to hold meetings. The institution is further designed to enable such students as may find Washington the best point for their special studies, to avail themselves of such advantages as may be open to them in the museums, libraries, laboratories, observatory, meteorological, piscicultural, and forestry schools, and kindred institutions of the several departments of the Government; and to ensure the prompt publication and distribution of the results of scientific investigation. These and kindred objects may be attained by providing the necessary apparatus, by employing able teachers from various institutions in Washington and elsewhere, and by enabling men fitted for special work to devote themselves to it, through salaried fellowships or scholarships, or through salaries, with or without pensions in old age, or through aid in other forms to such men as continue their special work at seats of learning throughout the world.—*Brit. Med. Journ.*, Feb. 1, 1902.

The Light Treatment.

S. Bang (*Berl. klin. Woch.*, December 9th, 1901) attempts to unravel

the tangled state of light therapy, and to separate what is actually known from that what is unknown. He deals exclusively with light rays, and leaves heat rays entirely out of the argument. The local effect of light rays, as applied in treatment, depends on the action of ultra-violet rays, which are most readily obtained from an electric brush light. This effect is evidenced by a hyperæmia which lasts for a very long time after the influence of the light has been removed. He speaks, further, of a so-called "latent hyperæmia," by which he wishes to express that condition of skin which follows months after the treatment has been applied, and which is recognised by a distinct redness appearing after a very slight stimulation. The actual changes consist in a dilatation of the cutaneous vessels, exudation, and local leucocytosis. Later a pigment is locally deposited, probably from the red blood corpuscles, which acts as a bar against any further effect of the ultra-violet rays. Dealing with the general action of the light, he finds that our knowledge is extremely limited in this direction. It is nevertheless certain "that the light is of importance for our health and power of resistance." Turning to the bactericidal action of the light, he believes that we are treading on firmer ground. He finds that apart from the strength and quality of the light, one has to take into account the absorption of the rays, and he shows that when passed through 1 c.cm. of a light veal broth the rays lose 700 times as much as they do when passing through a like column of distilled water. Comparing the electric light with sunlight, he finds that while the latter takes $1\frac{1}{4}$ hour to sterilise a certain surface growth of *staphylococcus aureus*, the 30 ampere lamp, at a distance of 60 cm ($= 23\frac{1}{2}$ inches) completes the action in $4\frac{1}{2}$ minutes. The light-resisting capability of different bacteria varies considerably, and tubercle bacilli may be classified under the more resistant micro-organisms. He divides the treatment in two classes—a positive and a negative. The latter depends upon the assumption that certain rays exert a harmful effect, and the treatment consists in applying a light freed from these harmful rays. Finsen introduced such a treatment for variola. In speaking of the positive light treatment, he finds himself hemmed in on all sides by a large amount of charlatanism. But there is a considerable amount of genuine action which is due to the local and general application of light rays. One of the most important details in Finsen's method is the compression. Against the suggestion that the mechanical action of this, and not the light at all is responsible for the beneficial effect, he quoted a case of lupus which was successfully treated by applications of only 5 minutes duration each. The effect of the treatment on lupus in Copenhagen is striking.

Only 11 out of 640 cases failed to respond. In conclusion he describes a new lamp which he has introduced, which acts, bactericidally, more than 60 times as powerfully as the instruments hitherto in use.—*Brit. Med. Journ.*, Jan. 11, 1902.

Is the Lady Doctor a Failure ?

This question has recently been asked in America and in one important quarter at least has been answered in the affirmative. This is all the more remarkable, since America is not only the country which witnessed the new birth of the lady doctor in modern times, but that in which she has hitherto appeared most to flourish. Miss Elizabeth Blackwell, who was the first, graduated in 1849. Three years later there were six in Philadelphia. In 1889 there were 3,000 lady doctors in the United States; in 1896 there were 4,555, and now there are probably 6,000, some of whom have very lucrative practices. But these would seem to be the exception. From Chicago comes the news that Princess Bamha Dhuleep Singh, daughter of the late Maharajah Dhuleep Singh, and seventy other young women, who were studying medicine at the North-Western University, will have to seek another school. After thirty-two years' trial the trustees of the University have come to the conclusion that women are not a success as doctors. The school is to be abolished and the property sold. One of the trustees, Mr. Raymond, goes so far as to say that it is impossible to make a doctor of a woman. He adds: "We have run the Women's Medical School at a loss of £5,000 a year. Women cannot grasp chemical laboratory work or the intricacies of surgery. Fifteen years ago the graduating class of men and women signed a memorial saying that coeducation was a failure. Then we conducted the college exclusively for women, and it has been worse than a failure." It is scarcely surprising to hear that various female practitioners who have been interviewed vigorously denounced Mr. Raymond. One of them Dr. Emilia Holmes Smith said: "The trouble was that the school did not have enough applications from women seriously considering entering the profession. They prefer to enter the coeducational school to obtain the same opportunities of acquiring knowledge and skill as men have. Besides, enough recognition was not given to graduates, they not being placed on the faculty when reason and opportunity offered." If the lady doctor is really a failure in America, the reason may be the simple economic one that the supply exceeds the demand. In this country, according to a writer in the *St. James's Gazette* the lot of the medical woman seems to be comparatively happy. The same may, according to M. Lucien Des-

cave, as side of France. In the *Echo de Paris* he records the results of a kind of domiciliary visit recently made by a bold journalist to the eighty-five lady doctors practising in Paris. He asked each of them three questions: (1) Has the medical profession given you the satisfaction you hoped for from it? (2) If you had to begin life again, would you choose medicine as a career? (3) Would you advise a young girl to follow your example? Of the whole number only one admitted in her reply that she had been disappointed. All the others expressed themselves as thoroughly satisfied with their position; they stated that they loved their profession, which made them independent and useful, and felt in its exercise the joy of a fulfilled vocation. They all declared that they would advise young girls to do likewise but one of them wisely uttered a note of warning against the danger of engendering "artificial vocations." Perhaps there has been too much of this in America. For the practice of medicine much more than the power of passing examinations is required. To the making of a successful doctor there must go qualities of head and heart that cannot be tested by examination. And all these are vain unless they are accompanied by physical vigour.—*Brit. Med. Journ.*, Feb. 1, 1902.

The Bicycle in its Relation to Medicine.

Em. Rebuschini (*Gaz. Med. di Torino*, December 5th and 12th, 1901) holds that the advocates and the opponents of the bicycle have both been guilty of exaggeration. He considers its effect in six directions. (1) Respiratory: The old stooping position, still retained by racers, undoubtedly hampers deep respiration. The correct position—almost an upright one—on the other hand, favours the full expansion of the lungs and gradually increases their capacity and their power of calm and regular breathing under exertion. Cycling must be prohibited in acute affections of the lungs, but it is useful in those who have a "tendency" to colds and laryngitis, and in sound persons with hereditary tuberculous tendency. It is useful in certain forms of chronic bronchitis, and especially so for the adhesions of pleurisy and in cases of healed tuberculous trouble. (2) Heart: The pulse may be raised to 150 or 200 per minute, and the arterial pressure increased to 20 or 22 cm., as a direct result of the powerful muscular exertion. Cycling produces a temporary acute dilatation of the heart, which by excess may become chronic. One must recognise a special tendency in cycling to lead its votaries unconsciously into excess; and it is the abuse, not the use, which is harmful. The author defines moderate use as a speed of not more than ten miles per hour, a daily total of not more than forty miles on the level, and avoidance of long or steep ascents, not too high a gearing. The rational use of the bicycle never caused heart disease; it must be forbidden to severe cases, but may be allowed under careful supervision in some slight cases (for example, young people whose myocardium and arteries are unaffected). More experience is needed as to the "dosage" of cycling which is beneficial in such cases, and one must recollect that for many

individuals abstinence is easier than moderation. (3) Locomotive system : Cycling uses almost all the muscles of the body, but principally those of the lower limbs (and more especially the extensors) ; the more practised the rider, the less exercise the trunk and arm muscles get. It is therefore inferior as an exercise to rowing. It is useful in gouty arthritis, in arthritis deformans, in old sprains, and in muscular atrophy following myositis or exhausting disease. (4) Nervous system ; Bicycling tends to exercise equally the functions of both cerebral hemispheres, primarily through the motor centres, but thereby probably induces a better general nutrition and development of the right hemisphere. Cycling is specially fitted for the treatment of the impulsive temperament, because of the cerebral inhibitions in which it educates the individual ; and this is most so in the young, in whom the brain is still easily impressible. It is also fitted to restore the circulatory balance between the hemispheres after it has been disturbed by prolonged intellectual work. The exaltations of sensibility, of circulation, and of muscular work produce a certain excitation of brain activity, if the exercise be brief and moderate, but an exhaustion of the brain with prolonged exercise. In neurasthenics and in hypochondriacs it is very beneficial, and is also useful in infantile paralysis, hysterical paralyses, and amyotrophies. (5) Digestive system : All are agreed as to the benefit to be got from the bicycle in dyspepsia and in gastro-intestinal atony. In nervous dyspepsia Fürbringer believes that it is superior to all other forms of treatment. Like all other forms of exercise, it renders metabolism more active, and is thus good in diseases of defective nutrition, such as anæmia, gout, rheumatism, and even obesity (for obese patients find cycling less difficult and fatiguing than pedestrian exercise). (6) Gynæcology : In regard to women cycling the author points out that it is here specially a question of use or abuse. The upright position is essential, for the inclined one both renders the respiration largely diaphragmatic and lessens the slope of the pelvic inlet, and consequently subjects the pelvic contents to pressure and displacement. It also hinders the return of blood from the pelvic organs. The suggestion that hypertrophy of the iliac and psoas muscles may occur (thus forming an obstacle in labour) is untenable. The bicycle is contraindicated during menstruation, during pregnancy (unless with great moderation during the early months), in metrorrhagia, leucorrhœa, or any inflammatory condition of the pelvic organs. In amenorrhœa and dysmenorrhœa, apart from such conditions, and in displacements it is recommended by Fanquez, but must be used with caution. It is almost indispensable for girls who are a mere bundle of nerves ready to explode at the least provocation.—*Brit. Med. Journ.*, Jan. 18, 1902.

CLINICAL RECORD. .

Foreign.

ALLOPATHIC LEAVINGS.

By STANLEY WILDE, L.R.C.P., L.R.C.S. (Edin.).

A.B., bus driver, æt. 60, ran the spike of a harness buckle into his right forefinger, which set up inflammation and suppuration. He attended as out-patient at the local hospital, where the finger was several times incised to evacuate pus. Notwithstanding this, and local antiseptic treatment, the finger refused to heal, and the *patient was informed that nothing further could be done, and that he must have the member amputated.*

As he afterwards told me, he felt that his occupation would be gone if he lost his finger. In his extremity, someone recommended him to "try homœopathy," and so he came under my care. The finger was certainly in a bad state; slashed about by incisions, suppurating and looking unhealthy and altogether rather hopeless. Surmising that the healing process was prevented by a septic state of the blood I prescribed *Lachesis* 6 every two hours.

Three days afterwards the patient came saying that he felt better in himself than he had been since the accident, and, already the finger had a healthier appearance.

A lotion of *Culeudula* was kept constantly applied as a compress.

- Improvement steadily set in, and at the end of ten days *Silicea* 3 was substituted for the lachesis.

This constituted the whole treatment, and in four weeks from the time he came under my care the finger was well, and the man is now driving his bus as usual.

W. D., æt. 26, contracted syphilis two years ago in India. Has been under much treatment and excessive drugging, especially by iodide of potassium, which has left him in a very low and debilitated condition. He stated that he could not stand any more of it, and desired to try what homœopathy would do for him. Present state: Seems mentally sluggish apathetic and depressed. Speaks slowly and with a certain amount of difficulty. Gets acute pains in the head, worse at night. Pulse slow; circulation feeble; much chilliness. On walking he is inclined to stagger, and the gait is uncertain. The knee-jerk was deficient, but not absent. No eye-symptoms; no pains in the legs.

Aurum mur. 2x, two drops four times a day, was prescribed in June, 1901, and he continued the remedy, with manifest improvement until October. A great change was then noticeable in the patient. He was alert, walked steadily and normally, spoke more briskly, and seemed altogether a new man. The pains in the head were also greatly benefited, and he now only had occasional pains, referred to the right mastoid region. *Acid. fluoric.* 6, followed by *Silicea* 6x, gave him relief, and, after two years of inability to do any kind of work, he is now turning his attention to obtain employment. •

J. M., *et.* 49, tailor, has been suffering for the last twelve months from the effects of over-work and worry, during which time he has been under four doctors who had, to use his own words, "drenched me with tonics which haven't done me a bit of good," in fact, he had been growing steadily worse. He came to me on September 30, 1901 complaining of being dreadfully low and depressed; cannot sit to his work; has to rush out of the house if he attempts it. Says that if he lies down during the day he has uncontrollable thoughts of suicide. Suffers much from insomnia; wakes in early morning about 2 or 3 o'clock, and cannot sleep again, and feels very bad then. Has obscure nervous sensations, and pains about his head. Pulse small and feeble.

Prescribed *Aurum mur.* 2x, four times a day, with hot beef-tea at bedtime, and some light nourishment on awaking in the early morning.

The report of the case from my note-book is follows:—

Oct. 8.—Feels better, less depressed, and is beginning to sleep better. Rep.

Oct. 18.—Going on well. Rep.

Oct. 25.—Looking very much better, and sleeping well now; spirits greatly improved; says his friends "wonder what he has been doing with himself."

After this his attendance became less regular, but at his last visit he informed me he had resumed his occupation as a tailor for the first time for over a year.—*Monthly Hom. Review*, Feb. 1, 1902.

DIABETES INSIPIDUS AND LYCOPODIUM.

By DR. BERLIN.

1. During May of last year M. L., from S., consulted me for hoarseness and a cough attended with whitish, rather watery, expectoration. The fauces were deep red and covered with mucus, and this was accompanied with a constant sensation of dryness and soreness. It was, therefore, a catarrh of the fauces and larynx. The patient had gargled with lemon-water, and put compresses around his throat at night; he had given up smoking and drinking spirits and beer; nevertheless the ailment had continued unchanged for two weeks.

I directed him to gargle with salt-water, putting a piece of salt as large as a coffee-bean into a tumblerful of water, so that the water only tasted slightly of salt. I allowed him to continue the compresses around his neck, forbade the use of spirits and beer, as also of all sharp food, as also of very cold or very hot dishes, and gave him internally *Ammonium brom.* 2, every three hours, three drops in a teaspoonful of water. On June 1st the patient informed me that the hoarseness had been removed in four days, and that the other ailments had disappeared very gradually, though his throat was not yet quite in order, as he was still somewhat hoarse after long continued speaking. I repeated the same remedy in the third potency, five drops every three hours.

2. After about two weeks the same patient returned and complain-

ed that for several months he had been very thirsty, drinking six to eight quarts in twenty-four hours, discharging a corresponding quantity of urine. He felt dreadfully weary and wretched. There were no other ailments. His appetite was very good, so that he could satisfy it as little as his thirst. In the last months he had also become very much emaciated. My suspicion of mellituria was not confirmed by an examination of the urine, for it was free from sugar. It was quite pale, almost like water, and with a very slight specific gravity, namely, 1.004; nor was there any sign of albumen. The patient did not look so very bad. It was evidently a case of *diabetes insipidus* as distinguished from *diabetes mellitus*. But little is known as to the cause of diabetes insipidus. Mental emotions, concussion of the brain and syphilis are given as the leading causes. But I could not discover any such cause in the patient. There is also very little known as to the exact nature of this disease. It is supposed that it is due to a disturbance in the secretive function of the kidneys, particularly a disturbance of the nerves in the central nervous system which regulate this secretion. Prof. Struempell says of it:

"The issue and, in consequence, also the prognosis of the disease are mostly unfavorable. It is cured but rarely. Its course is mostly very much drawn out and the disease may last for years, and even tens of years."

It is especially this unfavourable prognosis made by allopathy which causes me to publish this case. At a meeting of the Medical Society in Breslau, in the year 1894, Medical Counselor, Dr. Schweickert, had highly recommended *Lycopodium* in high potency, and I accordingly used it at that time very successfully in a case, the record of which I cannot now find. So I gave my patient, the second case of *diabetes insipidus* coming under my observation, *Lycopodium* 30, three drops morning and evening, directing him to call again after he had used up the medicine. As to diet, advised him to resist his thirst as much as possible, and always to drink only a sip at a time, and to avoid all sharply spiced food entirely, as this would increase his thirst. Else he might continue to live as before.

The patient did not call again, which I, of course, took as an unfavorable sign, as showing that the medicine had not acted, and that the patient had gone elsewhere. But this was not so, for a few months later a peasant called on me saying that he had sought for relief from a number of doctors, and now also wished to try homoeopathy because he had heard from Mr. L. that I had helped him so quickly in his urinary treatment after he had tried all the doctors. That patient had not mentioned that fact to me. On questioning the peasant more closely he reported that the great thirst and excessive micturition had diminished after the third day, and that he now felt all right. This the patient had told him. These facts were also confirmed to me later on by the recovered patient himself when I accidentally met him.—Translated from *Beipziyer Top. Z. f. Hom.*, Nov. 1901.—*Hom. Recorder*, Jan. 15, 1902.

CASES OF DISEASE AFFECTING BONES AND JOINTS.

By A. C. CLIFTON, M.D.

Case 1. Acute Inflammation of the Hip Joint in a Young Lady.—This was the first case of any kind treated homœopathically in Northampton. I did not attend her professionally as I was simply a layman at the time, but I narrowly watched the case. I can only say the case was considered a very severe one, and attended with symptoms of incipient pulmonary consumption. She was confined to bed and could bear no movement of the joint; in the course of a few months she was cured and remained well fifty-five years, until a few weeks before her death,

Case 2. Strumous Disease of the Elbow.—A girl aged 16 years. Her arm had been bad eleven months, and for seven months she had been an in-patient in the hospital, without benefit, from which she was discharged because her parents would not allow an excision of the joint to be performed. On coming under homœopathic treatment the whole arm was much swollen, purulent matter was escaping from two openings near the joint, and dead bone was plainly felt there; she also suffered from night-sweats, loss of appetite, diarrhœa, and was losing flesh; for this condition she took successively at varying intervals, *Phosphoric acid*, *Hepar*, *Calcareo carb.*, *Silicea*, and *Assafetida*, and occasionally applied a lotion of *Rue*. At the end of nine months she was quite well with the exception of a slight limitation of movement at the joint.

Case 3. Strumous Disease of the Knee.—A girl 14 years of age; consumptive parentage, had been an in-patient at the hospital twice, and taken the usual tonic medicines—*Quinine*, *Iron*, *Cod-liver oil*, &c.—for several months without benefit. The joint was considered so bad that nothing short of excision was pronounced to be of any use; her health also was very bad; she had night-sweats, sickness, quick pulse, loss of appetite, and emaciation.

She was then put under homœopathic treatment consisting of *Arse-nicum*, *Belladonna*, *Hepar*, *Calcareo carb.*, and *Phosphorus*, and in fourteen weeks her health was fairly good. But as the joint was not well she underwent a slight operation on it, and in a few months was well in every way.

Case 4. Disease of Knee.—A man aged 54 years; knee had been bad four years, result of an injury: under allopathic treatment during that time without benefit, in spite of leeching, blistering, application of *Iodine*, *Belladonna*, and Mercurial plaster, and much physic. There was great pain in the joint on any movement. The knee measured two and a half inches in circumference more than the sound one. As the patient's health seemed good the case was treated simply as one arising from injury. *Arnica*, *Rhus*, and *Ruta* were in succession tried internally without benefit. It was then ascertained that the mother of the patient died of cancer, his father suffered from rheumatism, and the patient himself had suffered from rheumatism, from constipation, highly-charged urine, flatulence, &c. *Phytolacca* was now given

internally, and *Phytolacca ointment* applied externally. . Subsequently *Graphites*, then *Lycopodium*, were his medicine, and in about eight months the knee was well and his health good.

Case 5. Disease of the Wrist.—A man aged 42 years; disease the result of severe injury; had been under allopathic treatment four months without benefit. Suppuration had taken place in the joint and crepitation of the bones was plainly felt and dead bone discovered and there was much pain in the joint on movement. On coming under homœopathic treatment the part was supported with a leathern splint and a lotion of *Silica* was applied, and the same medicine was given internally. Following that, the part was gently rubbed daily with *Phytolacca* and *Olive oil*, and the cure was complete in about ten weeks.

Case 6. Strumous Disease of the Ankle and Foot.—A girl eight years of age had been under allopathic treatment for seven months, the latter part of the time as a patient in the hospital. The joint and foot were much enlarged, painful, and so diseased that amputation was pronounced needful. Her health, moreover, was very bad; she had night-sweats, loss of appetite, was very weak, and losing flesh rapidly.

As her parents would not consent to an operation in her very weak state, she was put under homœopathy, but without much hope of saving the foot. The medicines prescribed were *Sulphur*, *Calcarea carb.*, *Mezereum*, and *Phosphorus*, and a lotion of *Rue* was applied to the part the latter part of the time.

In about seven months the child was well in health, but there was still some swelling, and only a limited movement of the part was permissible, but she subsequently made a better recovery, than could have been expected, and certainly better than by a loss of the foot. The parents of the child were so pleased with the result that, although they were artisans, they some years afterwards sent a furnished infant's cradle to the London Homœopathic Hospital, and only five years ago, when the girl had grown to womanhood, I called upon her and found her in perfect health, and the mother of three healthy children.

In addition to those cases I treated many others of a similar nature and with equally satisfactory results. One in particular demands notice before concluding, from the fact that after surgery had done its best, and the offending member removed by amputation, a recurrence of the disease elsewhere took place.

Case 7. A little girl about four years of age had disease in her left foot two years previously, and as the treatment failed to arrest the disease the foot was amputated, and after a short time she was considered well. The disease, however, had now attacked the left hand and fingers, and as it appeared likely soon to reach the wrist a local hospital surgeon and a London specialist were consulted, both of whom strongly advised the hand should be amputated. The parents of the child not consenting to that procedure, she was put under homœopathic treat-

ment. Without noticing the several bad points of the case, which is needless, after what the consultants had said, the medicines that were prescribed may, however, be noted—to wit, *Sulphur*, *Calcarea iodata*, *Silica*, and *Phytolacca*, in infinitesimal doses at varying intervals in succession, and a lotion of *Silica* and sometimes of *Phytolacca* applied to the part affected. After about six months of that treatment there was no vestige of the disease apparent, and when I saw her only a short time ago (eight years after the treatment) she was in perfect health locally and generally.

Were I now to submit, as I readily could, fresh evidence of a like nature, nothing by way of instruction in the treatment of other cases would be gained. There are points of resemblance and points of difference between the cases already submitted, just as there would be in new ones, both with regard to the cause and manifestation of the disease; no two would be precisely alike, and consequently no two would require the same treatment. The peculiar symptoms and totality of the symptoms of each individual case would have to be met by a drug the effect of which on healthy persons corresponded in appearance with the disease under consideration, and this is what really constitutes homœopathic treatment.

Further, in the evidence already submitted, there was no difference in opinion between the allopath and the homœopath with regard to the nature and extent of disease in the several cases; the only difference was in relation to *medical treatment*, and yet when I have put this evidence before my allopathic professional brethren, as I have been better able to do since I retired from practice, they have manifested an utter scepticism with regard to the same. Nor would they put the matter of proof, as I suggested, in any case coming under their care.

Hence the furtherance of homœopathy lies much more with the laity than the orthodox medical profession for sometime to come, and it is for this purpose that I have now addressed the lay public, in an unprofessional manner; for they have much to learn with regard to the best treatment for most cases of (so called) surgical disease from the fact that they but little recognise the extent which general disease or constitutional disease has upon local forms of disease, and therefore very often rush off for cures by the knife of the surgeon, which demand constitutional medical treatment necessarily involving more time for the restoration to health of the individual.—*Hom. World*, February 1, 1902.

Gleanings from Contemporary Literature.

**A PRESIDENTIAL ADDRESS
ON
THE HEART OF THE CHILD.**

Delivered before the Harveian Society of London on Jan. 16th, 1902.

By D. B. LEES, M.A., M.D. Cantab., F.R.C.P. Lond.,

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ORMOND-STREET; PHYSICIAN TO ST. MARY'S HOSPITAL; EXAMINER
IN MEDICINE, UNIVERSITY OF CAMBRIDGE.

GENTLEMEN,—The laws of the Harveian Society of London require that at the conclusion of his year of office the President shall deliver an address. I ask your attention, therefore, for a few moments to a short study of a subject too much neglected—the heart of the child.

“The child’s heart,” said Dr. Sturges, in the Lumleian Lectures for 1894, “holds as many secrets as the man’s and is even more deceiving.” If this be so it needs the more careful study and (even more than the heart of the adult) demands accurate investigation and patient observation. Yet who thinks it worth while to spend much time in examining the heart of a child? Does every medical man investigate the condition of this organ in each child patient as carefully as he does in an adult? In how many instances does he even recognise that it is his duty to examine it? Doubtless he feels the child’s pulse, but does he bestow much care upon the investigation of the heart itself? Does he always remember that heart disease is frequent in early life, that its beginnings may easily be overlooked unless he is careful, and that his neglect to ascertain the exact condition may be disastrous to the whole of the child’s future? Think of the amount of work which the child’s heart will have to undertake. Calculating at the rate of one beat per second, which is below the truth, it will have to contract no less than 31,536,000 times every year. If it survive for 50 years it will have performed the enormous number of 1,576,000,000 of beats. And if we adopt the estimate of Dr. Leonard Hill in the second volume of Schäfer’s “Physiology,” that the human heart performs work to the amount of 1000 kilogramme-metres every hour, we find that in a year its total work will be 8,760,000 kilogramme-metres, and in 50 years 438,000,000 kilogramme-metres. Translating this into English measures we find that during these 50 years the heart will have to lift 1,500,000 tons to a height of one foot. That is the work which lies before the child’s heart if it survive through a life of 50 years. How can it possibly accomplish the task unless it is thoroughly sound and well? Remember, also, that the child’s heart is an organ incompletely developed. It has to grow to its full size and to minister to a growing body. Any disease, therefore, which damages it not only hinders its future work but impedes its development and the development of the whole organism. From this point of view the integrity of the child’s heart is even more important than that of the man’s.

The child’s heart can be examined by the same methods as are employed for that of an adult. In some respects it is even more accessible, for in the child there is no excess of adipose tissue, no great muscular development, no large pendulous breasts, and rarely any emphysema. If the practitioner is rough and awkward he may make difficulties for himself by exciting the child’s fears, but anyone who knows how to deal with children can usually examine the heart of even the most “spoiled” child with accuracy. Impatient words, an ungenial aspect, hasty measures, or cold hands may make a young child cry and resist with all its might, but pleasant speech,

a kindly manner, gentle ways, and warm hands will usually calm the most nervous child and allow of a complete examination, provided that the undressing is done by the mother or the nurse and that she stands by the bed while the examination is made.

The chest being thus exposed to view we notice at once whether there is any thoracic deformity or any prominence of the præcordial region and the position of any visible cardiac impulse. Having noted this, the first idea of most practitioners is to pull out a terrible-looking instrument called a stethoscope, which probably appears to the child a sort of pistol, and doubtless is going to hurt him not a little. This early recourse to the stethoscope is a great mistake for more reasons than one. Keep it in your pocket to the last. A child is accustomed to being handled; you may use your hands to examine him as much as you like if they are only warm and gentle. He will not object at all to percussion if it be done very lightly and with the fingers only, but he will not tolerate the forcible hammering which some medical men call percussion, and those illusory instruments known as pleximeters will certainly make him cry. Fortunately, what the child allows is exactly what the physician ought to use, the lightest possible percussion. It is this, and not the heavy thumping, which is to tell you the precise size of his heart. But first warm your hand and lay it gently over the præcordial region that you may feel the cardiac impulse and ascertain its strength and whether it is localised or diffused. This gives you information as to the strength of the left ventricle. Then shift your hand gently to the epigastrium and notice whether any impulse of the right ventricle is to be felt there; if so, either there is some congenital malformation or there is some disease of the lungs or left heart. Slide the hand further to the hepatic region and see whether it meets the resistance of an enlarged liver, and try very gently to feel its edge. A single gentle tap on a finger below the costal margin will confirm or correct your observation.

Next proceed to percussion, but begin with a clear idea of the object of this measure and the way in which it is to be carried out. What is the object of percussion of the heart? To ascertain the superficial cardiac dullness, say the text-books. But what is the value of this result when you have obtained it? Almost nothing, from the cardiac point of view, though it may give valuable information about the left lung. What we really want to know and what can quite easily be ascertained is the exact size of the heart. We can, indeed, determine little or nothing by physical examination about the size of the left auricle, and we can form only an approximate opinion of the size of the right ventricle. But the size of the left ventricle and that of the right auricle can usually be ascertained with very considerable accuracy. Let your pleximeter be the terminal phalanx of a finger of your left hand. Let this phalanx be pressed somewhat firmly yet very gently, on the spot to be percussed, and let no other part of your hand touch the chest-wall. So you will avoid the conduction of resonance from elsewhere which is a fruitful source of fallacy. First select a spot in the midaxilla and percuss here with the lightest possible stroke; then gradually shift your percussed finger towards the sternum and you will easily recognise the change of note when the border of the heart is reached. For though the left lung partly overlaps the heart it is only by a thin layer and the margin of the heart is thick and airless and does not require what is called "deep" or heavy percussion to recognise it. Indeed, such percussion often defeats itself, for it introduces pulmonary and gastric resonance from a distance, especially if the whole of the percussed finger be applied to the chest-wall. Expect to find the cardiac margin a little to the left of the position of the impulse, for though it is usual to speak of the "apex-beat," it is not the extremity of the heart which strikes the chest-wall, but a spot on the right ventricle at some little distance from that extremity. The left border of the cardiac dullness in health extends a little to the left

of the position of the impulse ; when the heart is dilated this difference may amount to a finger-breadth or even more. (If anyone objects to the term "finger-breadth" as unscientific he may say instead "two centimetres," but he does not thereby make the measure more accurate, he only introduces a false idea of mathematical precision.) Next determine whether the dulness extends to the left of the nipple itself, and if so to what amount in the nipple-acromial line. Two points on the border of the left ventricle having been thus determined the line connecting them should correspond to this border, and this can easily be verified by holding the percussed finger parallel to this line. The difference in tone to the left and to the right of this line will then be obvious at once. Next determine the size of the right auricle. Very few percussors pay the least attention to this structure and many seem to be unaware of the fact that the dulness due to it may always be detected, even in the normal heart, in the fourth right intercostal space. The third space ought to be resonant quite up to the sternum, and in the fifth space the hepatic dulness alters the note, but in the fourth space the dulness of the right auricle is present for about one-finger-breadth in an adult and rather less in the child. When the auricle is dilated it may extend to two finger-breadths in the fourth space and from a half to one finger-breadth in the third. When the dilatation is very great it may amount to three finger-breadths in the fourth space, one and a half in the third, and may even be detected in the second. The accurate determination of the size of the right auricle is a matter of the greatest importance and often indicates at once the necessity for leeches to relieve distension. Yet there is no part of physical examination which is so universally and systematically neglected and the patient is too often allowed to suffer cardiac distress when he might be relieved in a few minutes. The suffering due to a distended bladder a medical man would promptly relieve but that due to a distended right heart is allowed to remain because his percussion is not accurate and bleeding is out of fashion. Recently when I advised a practitioner in charge of a case of pneumonia to try the effect of a few leeches he replied that he would "see if they could be obtained in the neighbourhood." Evidently the distended right hearts of this gentleman's patients got no relief.

You have now determined the most important facts about the heart, its size and strength, and your stethoscope is still in your pocket. But by this time you and the child are on good terms and you may quietly produce it without alarming him. It should be flexible and binaural ; the rigidity of the old wooden instrument makes its use difficult in the child and you are apt to press too heavily with it. Avoid the cumbersome instruments with a spring ; all that you want is a small and simple ivory cup as a chest-piece with two rubber tubes from it to two ivory ear-pieces. If these fit the ears properly there is no need for any spring. This more simple instrument is better for your purpose, for it makes no artificial noises of its own and it is less alarming to the child. If the latter shows any sign of fear it may be well to let him have it in his hands for a minute or two and look upon it as a new kind of toy before he is made the subject of its scientific application.

In auscultating the heart of a child be on the look out for murmurs due to congenital malformation. Very peculiar some of them are, and sometimes very puzzling. The most frequent, I think, is a systolic murmur, often very loud, which is loudest at, or just below, the junction of the left fourth costal cartilage with the sternum ; it is probably often due to an incomplete cardiac septum. The next most common, perhaps, is a systolic murmur over the pulmonary artery, loudest at the second left cartilage and conducted towards the clavicle, often audible in one or both supra-scapular fossæ. This indicates a congenital obstruction of the pulmonary artery. It is often impossible to diagnose the exact condition of a mal-

formed heart by physical examination, and in some cases there may be no murmur at all. A patent foramen ovale, unassociated with any other malformation, is probably of little importance and is a doubtful cause of murmur. Congenital murmurs are systolic in time; a presystolic or diastolic congenital murmur is exceedingly rare. Congenital malformations of the heart mainly affect its right side, which has the predominance in activity during intra-uterine life. After birth this side has much less proneness to disease than the left, though the tricuspid valve does not always entirely escape in rheumatism. But the most important affection of the right heart clinically is secondary to acute or extensive chronic disease of the lungs or to disease of the left heart. In all such conditions a careful watch should be kept on the amount of distension of the right auricle. Think of the tremendous strain on the right heart which a pneumonia causes even within two or three days. The thin-walled auricle becomes greatly distended and the stronger ventricle shares to a less extent in the distension. If the auricle did not act as a reservoir the ventricle would soon be over-distended and its action brought to a standstill. To some extent, then, the dilatation of the auricle is conservative, but if it exceed a certain amount the border-line which separates safety from danger is easily crossed. Distress and dyspnoea are experienced, and the right ventricle has greater and greater difficulty in expelling its blood. If at the same time its muscular structure is poisoned by pneumococcal toxins we can easily understand that, even in a child with healthy heart, liver, and kidneys, a pneumonia is a process dangerous to life. It is true that the child has a much better chance than the adult of weathering the storm, yet its violence may be much diminished and the patient often very obviously relieved by applying a few leeches over his liver. Not only are the distress and dyspnoea diminished, but the patient is enabled to sleep. When the right heart is over-distended sleep is much disturbed and may be impossible. Relieve the over-distension by a few leeches and the patient falls asleep without any hypnotics. Within a short time after the bleeding you will find on careful percussion that the dullness in the fourth right space has diminished, often by as much as a finger-breadth. The relief will almost certainly last for two days, perhaps longer. But do not forget to percuss out the auricular dullness every day. If the pneumonia continues to increase it may be necessary to repeat the leeches in two or three days; in a few cases of exceptional severity (and pneumonia in children under two years of age is not infrequently fatal) it may be advisable to use them even a third time. And in considering the question of bleeding in pneumonia remember that pallor of face and smallness of pulse are not necessarily contra-indications, for after the right side has been relieved the pulse will be stronger and the colour of the cheeks improved. You will observe this if you watch carefully the effect of the application of leeches in such a condition.

What has been said about the importance of carefully ascertaining the amount of distension of the right auricle in pneumonia applies also to certain other pulmonary affections. In acute bronchitis, in chronic bronchitis with an acute exacerbation, in whooping-cough with its mixture of collapse, broncho-pneumonia, and emphysema, and in an asthmatic attack it is important to notice the amount of distension of the right auricle. It is true that the determination may be difficult if the anterior base of the right lung is emphysematous or consolidated, and it may sometimes be impossible when there is fluid in the right pleural cavity, but in the great majority of cases of pulmonary disease it can be accomplished. In all cases of disease of the left heart, especially when it has been injured by rheumatism, it is extremely important to note carefully the amount of distension of the right auricle. It is not usually possible to detect in a primary rheumatic attack an acute dilatation of the right heart, such as

seems to occur invariably in the left ventricle. Nor is it dilated in a first attack of chorea, while the left ventricle almost always is. Even when the rheumatic process has damaged the left ventricle sufficiently to interfere with its suction-action, and thus to raise the tension in the pulmonary artery, the only physical sign which reveals this is the accentuation of the pulmonary second sound. For a considerable time the right ventricle will succeed in overcoming the increased tension without affording any clinical evidence of hypertrophy or dilatation; but if the primary rheumatic attack has been very severe, or if a relapse occurs (and to this rheumatic children are exceedingly liable, especially when they are deprived of salicylates), and there is evidence of pericarditis or of great dilatation of the left ventricle, then expect to find a gradual increase in the size of the right auricle. Watch it carefully. If the dilatation of this structure is rapid dyspnoea and cardiac distress will probably be present, but a more gradual increase will only be revealed by percussion. As time passes the heart accommodates itself as well as it can to its difficulties, and if the rheumatism does not recur a condition of comparative comfort may be attained in which the right auricle is distinctly dilated but not yet grievously hampered by distension. The dulness in the fourth right space may amount to one and a half or two finger-breadths, and yet there is no call for relief by leeches. It is, however, a condition of unstable equilibrium. A fresh rheumatic attack or a little over-exertion may turn the scale. Increased dyspnoea reveals the greater strain; the auricle dilates further and its dulness may amount to two and a half or even three finger-breadths in the fourth right space, one and a half in the third, and half a finger-breadth in the second. Before this the liver has become considerably enlarged. If you find it down to the umbilicus or even lower and the amount of urine passed be decreasing there is no time to be lost. The condition is a dangerous one, but relief may be given by prompt venesection or leeching. The auricular dulness will then be found to diminish; the liver also will be smaller, and the digitalis, which was producing little or no effect before, will manifest its action. Hypodermic strychnine will assist in restoring compensation. It is surprising to see how much relief may be given in the later stages of rheumatic heart disease by treatment of this kind and how long life may be preserved even when the condition of the heart is such that the child is incapable of exertion. But the fatal susceptibility to renewed attacks of rheumatism, incapacitating the heart still more, at last defeats the physician. Before leaving the right side of the heart I must call your attention to a systolic murmur over the tricuspid region which is not very uncommon in healthy children. It is a low, soft, short murmur, best heard about halfway between the left edge of the sternum and the nipple line, and usually becoming inaudible at a short distance to the left of this line. It is sometimes accompanied by slight irregularity of the heart's action. Its site of maximum audibility is lower than that of the congenital murmur already described and to the right of that of a mitral murmur. It does not indicate any organic disease.

Let us now study the left side of the heart. The left auricle is inaccessible, but enlargement of the left ventricle (in which enlargement the right ventricle probably shares to some extent) can be easily determined by careful percussion, and the strength of the ventricular muscle can be fairly estimated by observing the force and localisation of the impulse.

Dilatation of the left ventricle being very common in children who are out of health it is important to start with a clear idea of the position of the left border of the cardiac dulness in a normal child. Dr. F. J. Poynton determined this carefully in 35 healthy public-school boys between the ages of 12 and 14 years. In 21 out of the 35 boys the left limit was about one inch internal to the nipple, in seven it reached a vertical line through the inner margin of the areola, in five it extended as far as the vertical

nipple line, and in two it passed this line by three-quarters of an inch and by one inch respectively. One of these two boys, however, was living in the medical attendant's house because he was delicate, the other had recently suffered from influenza. Thus we may conclude that in healthy boys of from 12 to 14 years of age the left border of the cardiac dulness is found at about one finger-breadth internal to the nipple line. In a few it appears to reach this line, and this seems the more common in the younger children especially before seven years of age. In 45 cases of children under 12 years old in the surgical wards of the Hospital for Sick Children Dr. Poynton found the left limit internal to the nipple in 19, in the nipple line in 18, and external to the nipple in eight. But of course these were not perfectly healthy children, for they were all inmates of surgical wards. We may conclude that in normal children the left border of the cardiac dulness is usually distinctly internal to the nipple line, that it may sometimes reach it, but that it rarely goes beyond it. This must be carefully remembered when we investigate the cardiac dulness in a child who is suffering from disease, for it is so common to find the left limit from a half to one finger-breadth external to the nipple line that we may be led to consider it as normal, and its discovery to be of no importance. But this inference would be false in fact as well as in logic; its commonness only proves that its causes are many. The cardiac muscle of the child is perhaps specially susceptible to the deleterious influence of toxins and poisonous products circulating in the blood.

The most characteristic instance of this is diphtheria, which is much more fatal in children than in adults, sudden death being by no means very rare after a severe attack of diphtheria in a child. The fatal issue is usually caused by extensive fatty degeneration and destruction of the cardiac muscular fibres, such as Dr. Sidney Martin found to be caused in animals by injection of the diphtherial albumoses. In and after an attack of diphtheria in a child there is usually enlargement of the left ventricle, the impulse becomes diffused and weak, and the first sound is short and feeble. If the dilatation amounts to two finger-breadths to the left of the nipple line the danger of death is great and the case should be very closely watched. And if the limit of the dulness of the left ventricle is only one finger-breadth outside the nipple line it must be remembered that a rapid increase in the dilatation may occur, even six or eight weeks after the diphtherial attack, and may cause sudden and entirely unexpected death at a time when the practitioner is looking for convalescence and has given a hopeful prognosis. Influenza, also may produce a rapid dilatation of the left ventricle which may be dangerous to life, but in this disease the susceptibility of the child seems to be less than that of the adult.

The pneumococcal toxin appears to affect the left ventricle less than that of influenza, and though there is usually some enlargement of the cardiac dulness to the left in pneumonia it is much less than the enlargement of the right auricle, and one is often doubtful whether the enlargement to the left may not be due to dilatation of the right ventricle pushing the border of the heart further to the left. The rapid recovery which often follows the crisis in pneumonia suggests that the poisonous influence of the toxin of the pneumococcus on the left ventricle cannot be very great.

In typhoid fever a gradual enlargement of the left ventricle is usually to be detected, along with diffusion and weakening of the impulse: the first sound also becomes weak and short. The increase in size often reaches one finger-breadth outside the nipple-line and may amount to two finger-breadths. During convalescence the ventricle gradually returns to its normal size and its strength increases. In tuberculosis the left ventricle is frequently moderately dilated. How far this is due to a tuberculous toxin and how far merely to general debility and anæmia it is impossible to say. Even in debility and in anæmia there may be poisonous products of

pervverted metabolism circulating in the blood, and in renal disease it is quite likely that some of the increase of the dulness of the left heart may be due to toxæmia as well as to the influence on the ventricle of the raised arterial tension.

In acute and subacute rheumatism an enlargement of the left ventricle with enfeeblement seems to be invariable. It is the first indication of the effect of rheumatism on the heart, and may be detected when there is no evidence of endocarditis or pericarditis. The left border of the cardiac dulness almost always extends beyond the nipple-line, even in the most subacute attack; usually it reaches one finger-breadth to the left of this line and it may be even two finger-breadths to the left in a first attack of rheumatism in which there is neither rub nor murmur. The impulse is diffused, and both it and the first sound are weakened. As the attack subsides the dulness tends to return to the normal limit. It may do so completely, but in many instances, especially when a murmur becomes audible, the left ventricle remains more or less dilated. A second attack—and to this a rheumatic child is extremely liable—dilates it further, and an accompaniment of endocarditis is only too probable. Pericarditis may occur in a first attack, but is usually a later phenomenon. When it occurs it is always accompanied by great enlargement of the heart, causing an extensive increase in cardiac dulness, usually ascribed wholly to pericardial effusion. After repeated rheumatic attacks the child's heart may reach a size which is almost incredible to anyone who has not observed it in the wards and post-mortem room. Clinically, it may extend four finger-breadths to the left of the nipple-line and to three finger-breadths in the fourth right intercostal space. In the larger rheumatic hearts there is usually a systolic apex murmur and frequently a presystolic or mid-diastolic also. Evidence of pericardial friction, more or less extensive, is common. Occasionally a diastolic murmur at the base gives proof of aortic regurgitation. It has long been known that in children the cardiac manifestations of rheumatism often are far more pronounced than any other indications of the disease. There may be little or no arthritis, no soreness of throat, no eruption or only a very small patch of erythema, no subcutaneous nodules, no chorea or only slight nervous twitching, yet the cardiac rheumatism may be nothing less than deadly. If all who have to do with children would constantly bear this in mind much suffering would be avoided and many lives would be saved. The slightest suspicion of rheumatism should lead to a most careful examination of the child's heart by palpation and percussion; the practitioner who in this matter relies solely upon auscultation betrays a carelessness which is almost criminal, and shows himself unfit to be entrusted with the vital interests of the child.

In chorea an enlargement of the left ventricle, with or without murmur is present in the great majority of cases. The left border of the dulness almost always extends from a half to one finger-breadth outside the nipple line. This seems to be an additional confirmation of the essentially rheumatic nature of nearly all cases of chorea—one extra link in the chain of proof.

The extreme tendency to cardiac disease in rheumatism and in chorea seems to be not merely the result of the poisonous influence of a toxæmia. This, no doubt, is a part of deleterious action produced by rheumatism, and it may perhaps sometimes be the sole cause in a slight attack which recovers completely, but evidence is accumulating to prove that there is usually very much more than this—that actual inflammation of the muscular substance and fibrous structures of the heart exists, and that this is caused by the local presence of a diplococcal micro-organism. Dr. Poynton and Dr. A. Paine have demonstrated such organisms in the cardiac valves (with intact epithelium) and in the muscular wall. The

same investigators have proved that pericardial fluid from a rheumatic child when injected intravenously into rabbits can cause in these animals all the most characteristic effects of rheumatism in the child. They have also obtained from a rheumatic nodule in a child, carefully excised with aseptic precautions, a most abundant growth of the typical diplococci in pure culture. In rheumatism, then, we are dealing with an inflammation of the child's most important organ caused by the local presence of a pernicious micro-organism.

The question of treatment at once divides itself into two problems : Can we by the administration of drugs directly destroy these microbes or arrest their growth and increase, without damage to the child ? and have we any means of directly repressing the cardiac inflammation ?

To the first question I reply that in sodium salicylate, in adequate doses we have a drug which seems to be definitely antagonistic to the rheumatic process. The theory that it merely relieves pain is only possible when adults are the subjects of the disease ; in the child it is at once seen to be absurd. The best proof of the genuine efficacy of salicylate in arresting rheumatism is found in the great tendency to relapse when the drug is being administered in doses which are too small, and especially when it is too soon given up. There is a widespread impression that salicylate of soda is "depressing to the heart." What is really depressing to the heart is the rheumatic microbe, its works and ways, and some of its pernicious effects have been attributed to the salicylate. Children bear salicylate well and it rarely causes in them the unpleasant aural symptoms which are common in the adult. It seems to be almost as necessary to a rheumatic child as mercury is to a syphilitic infant, and some children with great tendency to rheumatic relapse ought to take a small quantity of the drug daily for a long time. Sodium bicarbonate is another drug which seems to be certainly useful in rheumatism. It may be given in double the dose of the salicylate and along with it. My impression is that the acute dilatation of the left ventricle subsides more rapidly when the bicarbonate has been freely given than when the salicylate has been administered alone.

The question whether we have any means of repressing the cardiac inflammation may also be answered with confidence. Leeches will diminish the congestion of the cardiac vessels, even when applied over the liver, by lessening the pressure in the right auricle and thus aiding the escape of the blood in the coronary sinus and the intra-cardiac veins, and the local application of an ice-bag most certainly represses the cardiac inflammation. These two remedies are of the greatest possible service to the rheumatic heart. Ice is undoubtedly depressing to the normal heart, but when preceded by leeches and used with care it is the reverse of depressing to the rheumatic heart. It relieves the depression caused by the rheumatic, and under its use I have often watched the dilated ventricle diminish and the feeble diffused impulse become changed into a steady, heaving, local thrust. Digitalis is of little service in the treatment of rheumatic cardiac inflammation in the child ; its opportunity is later, when the inflammation has subsided and the mechanical effects of the cardiac lesions manifest themselves. Then it will work wonders. When we pass from inflammatory conditions of the heart to the ventricular dilatation and enfeeblement caused by toxæmia we see that leeches and ice are inapplicable. Digitalis is sometimes of service, but the hypodermic injection of strychnine is of still greater utility. Iron is of value in anæmic debility, but in diphtheria I rely mainly upon subcutaneous injection of atropine when danger threatens. I first employed belladonna in diphtherial paralysis more than 20 years ago on physiological grounds. It has subsequently been continually employed at the Hospital for Sick Children and I believe I have seen it save many lives. In cases of less urgency the drug may be given by the mouth, but where the dulness of the left ventricle extends more than one

finger-breadth to the left of the nipple line it should be given subcutaneously, with a frequency regulated by the imminence of the danger.

It only remains for me to thank you, gentlemen, for the honour which you bestowed on me a year ago by electing me your president and for your kindness to me during my year of office. The election of that distinguished surgeon, Mr. W. Watson Cheyne, to be president for the next year is a most happy augury for a prosperous session.—*Lancet*, Feb. 1, 1902.

VARIOLA—IS IT PREVENTABLE—IS IT CURABLE?

BY C. S. MIDDLETON, M.D., PHILADELPHIA.

This paper is not intended to be exhaustive, but merely to be a recital of certain features and facts, especially as to treatment. The continuance of small-pox in our midst makes any reference to this disease from a medical standpoint a matter of interest, even though it may seem as if the subject had been worn quite threadbare.

The propagation of small-pox is so well understood by all intelligent persons that it would seem quite unnecessary to say that it is through contagion, both by absolute contact with cases, or by infected articles. The pathology is that of zymosis, its complications many—notably renal—and whose germ has not yet been defined, so far as I know.

The history goes back to many centuries ago, the disease "having been imported into Europe from Asia, where it had been known and recognized from a remote antiquity." The earliest accounts of its existence reach back to the middle and end of the sixth century, when it was described by Procopius and Gregory of Tours as "occurring in epidemic form in Arabia, Egypt, and the south of Europe." Even at this early day variola was clearly described, its pathology explained by a "humoral or fermentation theory. . . ."

It is quite unnecessary to enter into a dissertation on the symptoms and various phases of small-pox, as text-books abundantly supply this information. It might be well, however, to call attention to some of the complications with which certain cases are associated; and, aside from the various complications of the chest,—bronchitis, pleurisy, pneumonia,—diphtheritic complications of the throat, ulcerations of the eyes, ears, etc., occur, and probably most serious of all is the renal, or nephritis.

"A study of the urine of 1400 cases of small-pox showed that albumin should be considered an almost constant accompaniment. Positive reactions were obtained in 95 per cent. of the cases, and in 32 per cent. abundant quantities were present. The maximum amount corresponded in general to the early febrile period. . . . Albumin persisted in 75 out of 100 cases in small amounts, even during convalescence. . . . It is believed that the albuminuria of small-pox is not simply functional, but due to an alteration of the renal tissue." This will apparently explain the cause of the death of many cases wherein the formation of pus, and consequent

secondary fever, would seem not to be of sufficient gravity to end the patient's life. Recognizing the many disgusting features of this disease, the exceedingly high rate of mortality where no measures are brought to prevent or to cure it, the mind of the enlightened, both of the laity and the profession, turned to the thought of how to prevent the spread of small-pox, and eventually inoculation with the virus from the matured pustules came into vogue, "introduced into Europe by Lady Montagu, in 1718."

This practice, when associated with proper hygienic measures, although attended with considerable mortality, yet eventually lessened to a "very great extent the material for other epidemics in the future to feed upon, thus proving that it was possible to prevent the well-nigh universal prevalence of smallpox. But it remained for Dr. Edward Jenner, of Gloucestershire, England, to proclaim and utilize, in 1798, a much more benign process for preventing or modifying this terrible disease, that of vaccination with virus from cow-pox,—a rare disease of the cow, similar in its pathology to that of variola in man, with the facts of which you are all familiar.

This preventive measure was introduced into this country by Dr. Benjamin Waterhouse, of Boston, Mass., in 1799.

"In 1866 a case of genuine cow-pox was discovered at Beaugency, France : . . . the fresh virus was secured and multiplied by vaccinating from one heifer to another, for the purpose of producing virus for general use."

It was from this source that Dr. Henry A. Martin, of Boston, Mass., originated his vaccine farm, which has supplied many of us with a reliable product these many years, thereby enabling us to abandon the use of humanized virus, with its many risks of transmitting constitutional diseases with which the human family are too often afflicted.

Without going into details, the superabundance of evidence from various countries, notably that of Germany, where compulsory vaccination clearly proved—and at no time more abundantly than the comparative results between her soldiers and those of the French during the Franco-German war—that small-pox is practically a preventable disease, limited only by a greater or lesser use of the means at our command, namely, vaccination, and re-vaccination.

Compulsory vaccination reduced the loss of the German nation by small-pox from 143,000 in 1871 to but 116 per annum after the law of 1874. Even before this law was passed, the German government ordered compulsory vaccination of all her soldiers, and during the Franco-German war both armies were attacked. The French, who were lax in this regard, lost 23,000 by small-pox, while the Germans lost but 278 ; and in the same tent, where the wounded of both armies lay, the French were heavily attacked, while the Germans had not a single case. (Bezzozero, *Med. News*, Dec. 17, "1898.")—Sajous, *Ann.*, p. 806.

Those physicians who have had an experience of many years, which has been likely to have carried them through an epidemic of variola, will, I believe, bear testimony to this effect.

Now as to the *curability* of small-pox. Because a patient recovers from an attack, that alone is no evidence that he was *cured*. It is just possible that many who do not know why will nevertheless break into an audible smile when the writer asserts that small-pox is *curable*!

In a short article on small-pox by the writer, published in the *Habermannian Monthly*, April, 1872, it is asserted that the administration of carbolic acid internally will so modify this disease that, given immediately after the eruption has appeared, the course is cut short, the pustules dry up without suppuration, and the secondary or suppurative fever is completely prevented. In this article a series of 4 cases are given as a proof of the statement.

I had treated about 35 cases in that epidemic up to that time; subsequent additions to the above number ran the aggregate up to 56 in all, and the continued use of carbolic acid substantiated the report of the results in the other cases.

Carbolic acid 1x* was used, about ten drops in half a glass of water, and a teaspoonful given at intervals of two hours. (I would not hesitate to give it as often as one hour intervals in the most urgent cases.) In that article it was stated that the remedy was not used until the eruption was fully established, and even then secondary or eruptive fever was entirely prevented.

That is correct, and I thought at that time it was the safer course. I still believe it sufficient to prevent secondary fever and pitting, but I am just as firmly convinced that if we could be *positively* assured that we have a case of small-pox to deal with in the beginning of the first stage, before the eruption has appeared, *we can prevent the eruption even, and thus cure the disease in toto*, and thus save much valuable time and suffering, ignoring, if you will, the unsightly pitting, and go still further in our beneficence by preventing the spread of the disease.

Should it fall to my lot to have any cases amongst my patients, and I can be positively certain that I have variola to deal with, I shall, reasoning *à priori*, prescribe carbolic acid at once, fully believing the truth of the last assertion, as of the first, will be realized.

One difficulty must be noted, that in all cases resembling small-pox, where carbolic acid shall have been used, and where no eruption shall have appeared, doubt will at once be thrown upon the diagnosis. Now, whether this medicament be homœopathic to small-pox or not, it will *cure*, by destroying the germ within the blood, if used as above; I would have no faith in the drug in the extreme high potency. But if one will examine the *Materia Medica*, one will find abundant evidence of the similarity of the symptoms of carbolic acid to those of small-pox, especially to those of the skin, setting aside any reference we may feel applies to its effect on the organization of the blood.

* Upon investigation, I find the above strength equivalent to the tincture of the Present Pharmacopœia.

The writer has had volunteered testimony to the value of this remedy as related, but it is his desire that homœopathic physicians especially shall reap the advantage of its use, thus not only adding to their popularity, but also that more of the unfortunate may be relieved and retain their cosmetic perfection.—*Hahnemannian Monthly*, February, 1902.

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CALCUTTA JOURNAL
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CELEBRATION OF THE 147TH ANNIVERSARY
OF HAHNEMANN'S BIRTH-DAY.

THE MEETING OF THE HAHNEMANN SOCIETY in commemoration of the 147th birth-day of Hahnemann was held at the Lecture Hall of the *Indian Association for the Cultivation of Science*, 210, Bow Bazar Street, on Thursday the 10th April, at 5-30 P.M., Dr. Mahendra Lal Sircar, President, in the Chair. The weather was very unpropitious. Clouds began to deepen from 4 o'clock, and rain and storm commenced a quarter of an hour after and did not abate till 6, thus preventing many people from attending who would otherwise have been glad to attend. The attendance, in consequence, was not large as was expected. Amongst those present were the Rev. Father J. Henry, S. J., of St. Xavier's College, Dr. W. Younan, Dr. Hurro Nath Roy, Dr. Bepin Behari Chatterjee, Dr. Amrita Lal Sircar, Dr. Indu Bhusan Mallik, Dr. Ganendra Lal Gupta, Rai Girish Chandra Chaudhuri Bahadur, Babu Baikunta Nath Datt, Babu Sri Hari Ghosh, Babu Nava-dwipa Chandra Das, Babu Barada Prasad Das, Babu Sarat Chandra Majumdar, Babu Rai Mohan Banerjee, Babu Joy Kissen Ghoshal, Babu Narayan Chandra Vidyaratna, &c., &c.

The President, after reading a telegram from Dr. Chandra Sekhar Kali regretting his inability to attend on account of an

urgent call out of town, and a letter from Dr. Hem Chandra Rai Chaudhuri resigning the Secretaryship of the Society on account of continued ill health, addressed the meeting as follows :—

GENTLEMEN and COLLEAGUES,—

My cordial greetings to you for your kind presence at this meeting, especially in this unexpectedly sudden inclement weather, which proves your devotion and loyalty to truth. For, gentlemen, we are assembled to-day to bear witness to the most beneficent truth ever discovered by the genius of man, and to pay our yearly homage to the memory of the man whose genius made the discovery.

These anniversaries of the birth-day of Hahnemann must be celebrated till the truth he discovered has permeated the profession, or till at least the majority of the profession recognise the truth for the weal of the human race. Ever since you did me the honor of making me your president we have been holding these anniversaries regularly. It is only last year when about this time I was almost in my death-bed that this anniversary was not held. No one regrets this more keenly than I do. I hope I have made amends for this by appearing before you this evening, not without considerable risk to my tottering health. You were pleased to make me your life-president, but as my life is rapidly drawing to its close, I earnestly hope, that in anticipation you will elect some one in my place, so that in future you will be able to do without me.

Now, dear colleagues, "Great, indeed, is truth and will prevail," but that should not be our excuse for idleness or indifference. We must remember that truth is no mere abstraction but a concrete reality, the embodiment of God's ways as observed in the laws which govern the phenomena of the universe. The mind of man has the privilege of discovering these laws. When we thus recognise the truth we become partakers of the benefits that flow from it. And then it becomes our duty to make others our co-partakers. Strangely enough it is not always that men readily recognize truth when discovered by others, and not unoften we find men who will not only not recognize such truth but persecute those whose privilege it has been to discover it. Pride or interest or both are the mainsprings of this strange behavior. In the case of homœopathy both pride and interest have actuated

the majority of its opponents and persecutors. Very seldom has genuine love of truth been at the bottom of the opposition, but when it is, it is not difficult to convince the opponent.

Such being the state of things in our world, such being human nature, it becomes the imperative duty of those who have the privilege of possessing a truth which is calculated to be of benefit to their fellow-men, but which is opposed from interested motives, to do their best to propagate the faith that is in them. This duty becomes the more imperative the greater is the benefit likely to be derived from the truth. What truth can be more beneficial to mankind than that which leads to the selection of the right remedy in the treatment of disease for its cure or its relief?

Those of you, who have become convinced that of all the methods of treatment in vogue, the homœopathic is the best and comes to the ideal of scientific being based upon a law of nature which you daily verify at the sick bed, ought to know what your obvious duty is. You meet with opposition not only from your professional brethren of the old school, but even from your patients. You ought to conquer this opposition. The best way of doing this is to effect cures and to publish them. The former you can succeed in doing only by a thorough acquaintance with homœopathy which means the whole circle of the medical sciences. You should not for a moment think that, a mere knowledge of the *materia medica* by rote is enough. You must be able to thoroughly understand the significance of the symptoms of the drug and interpret the symptoms of the patient. This, I need hardly remind you, you can do only by a thorough knowledge of anatomy and physiology. You must remember that your opponents are experts in all these and other auxiliary sciences, and you would not only cut a sorry figure if you are found wanting in knowledge of these, but you will make sad mistakes to the great and perhaps irreparable injury of your patients. No one ought to be and can be a homœopathic practitioner who is not intimately acquainted with the structure and functions of the living organism the disorders of which the physician and the surgeon are called upon to repair.

It is sad and disheartening nowadays to hear more and more of failures of homœopathic treatment. What but failures could be the result when most of the practitioners of homœopathy are

deplorably wanting in the necessary knowledge, when wrong diagnosis is the rule, when deceptive prognoses are given, and when our medicines are administered with a light heart as if they were capable only of good and not of evil, which is a logical absurdity. Flushed with success in a few cases in which any one with a slight knowledge of our ordinary remedies can achieve success, the practitioner is often led to treat the most serious cases with the same levity and without the necessary care and anxiety, and thus court the most ignominious failures.

The next means by which homœopathy can be advanced is, as I have told you, the publication of the cures effected by it. Bear with me when I take the liberty to tell you that you have not shown the full extent of zeal that is expected of you. There are two journals in existence in this city, but how few are the cases published in them. If each of you would report but one case a month we would have got at least twenty-four cases for each number. I have been appealing to you for contribution ever since my journal was started thirty-five years ago, and this has been literally a cry in the wilderness. Want of time is generally pleaded for not being able to report cases. I admit that some of you are much pressed for time, but those work most who are the most busy. Want of time is an excuse of the idler, the apathetic, and the indifferent. But let me beg of you to remember that a homœopathic practitioner can ill afford to be idle, apathetic, and indifferent. He must not content himself with only earning his bread. He has charge of a most sacred cause towards the advancement of which he must incessantly work heart and soul. And let me tell you with the authority of a long experience that you cannot advance the cause without advancing your own interests. The habit of reporting cases would give precision to your ideas, would enable you to study symptoms in the patients and symptoms in the *materia medica* more intelligently, would, in a word, make you better and more successful practitioners.

The non-publication of cases in the local journals has an effect upon the public which you have perhaps not thought of. It is this, they think that we have nothing worthy to publish. They see Indian cases of astounding cures in foreign journals, but they know who these cases are reported by. They know that these vaunting practitioners have not the status of the regularly

trained medical man in this country, however loudly they may call themselves "Drs." and however widely they may advertise themselves as such.

Now, my dear colleagues, if you had taken care to publish your cases in your own journals, one of which, at least, as you will see from its list of Exchanges, goes to the remotest parts of the world, you could have effectually prevented this disgrace, this fraud upon homœopathy, a system which demands the most thorough general knowledge and the highest science for its successful cultivation and practice.

And finally let me urge upon you the necessity, the absolute necessity, of union, not of trades-union, but of healthy, enlightened union, proceeding from culture and philanthropy, from a due sense of your responsibility as physicians in the largest sense of the term, and as homœopathic physicians charged with a knowledge which is despised and persecuted by the majority of the profession, but which is really the most advanced point yet reached in the domain of therapeutics, and which therefore you are bound to diffuse the blessings of in all conscience. I would not have touched upon this subject at all if I had not with the saddest heart observed grave symptoms of disunion amongst us. I should be wanting in my duty as the oldest among you, if at the time of taking my final leave of you, I had shrunk from warning you of the danger that will inevitably result from this disunion.

One of the gravest symptoms of this disunion which I cannot help noticing is the multiplication of Homœopathic Schools. Where we have absolutely no materials, no funds, for one school we have four schools in our city. There are hardly more than two dozen regular practitioners in Calcutta and the suburbs, of which scarcely a dozen take any interest in school-making. So that literally there are four parties with divided interests amongst a dozen. Is this state of things desirable? I have been opposed to the establishment of even one school, when the proposal was first made to me, for the simple reason that unless we can establish a school, which we have no means of doing, on a footing of equality with the old school Medical College that exists in this city with all the advantages of endowment from Government, and which enjoys a world-wide

renown for its ample and adequate provision for instruction, theoretical and practical, in all the branches of Medicine, we shall make ourselves a laughing stock in the eyes not only of the old school but of the world, and deservedly so, because from such school as we can establish with inadequate means, we can only turn out ignoramuses who cannot but bring unmerited disgrace upon homœopathy. I have no objection to, indeed I will most gladly welcome, the establishment of post-graduate lectures, whereby we can impart instruction to those who are capable of profiting by them. In this way if we can teach half a dozen a year, and win over even one of them to our side, that will be a distinct gain to Homœopathy, at least it will be better far than if we turn out hundreds of quacks.

One inevitable disastrous consequence of the schools already established has been the creation of an impression on the mind of the public that homœopathy does not require for the understanding of its principles any respectable learning, any knowledge of anatomy and physiology except what may be gathered from books. These schools, I am ashamed to say, has made child's play of homœopathy. Prejudiced as members of the old school are, and we must not forget that we ourselves were in the same predicament, their prejudices have been deepened by our unwise, over-zealous action. I would entreat you to ponder well before you proceed further. In this matter you should be guided by reason and not by mere sentiment, by a consideration of future consequences and not by delusive present advantages.

After the address of the President, Dr. Aksay Kumar Datta was elected Honorary Secretary, in the place of Dr. Hem Chandra Rai Chaudhuri resigned, and Drs. Hem Chandra Rai Chaudhuri and Hurro Nath Roy, were elected additional Vice-presidents, of the Hahnemann Society.

• The President then called upon Dr. Younan to read his promised paper entitled "Hahnemann's teaching on the Dose question in Homœopathy."

Dr. Younan said, Mr. President and Gentlemen,—

One of the first things that strikes a homœopathic physician, who has sat humbly at the feet of the master Hahnemann and learnt his therapeutic teachings, is the difference that exists

among his disciples, both in opinion and practice, regarding the dose question in Homœopathy. Such a divergence in opinion and practice prevails that one is tempted to ask how it has really come about, and what authority each one can adduce in support of his opinion or practice. To my mind the matter seems so clear and definite that I cannot understand the position of any homœopathic physician who deviates, even a little, from the exact standpoint of the master on the question of dose. The master has over and over again taught that he has been guided entirely by long and thoughtful experience in the development of this subject, and that this subject—the question of dose—is quite as important as the choice of the homœopathic simillimum.

It would appear that practitioners of Homœopathy find it very difficult to follow Hahnemann into the infinitesimal attenuation of homœopathic drugs, either from prejudice or from preconceived notions or from the fancied necessity of following the teaching and practice of Teacher A or Teacher B. Such men forget, and so do their teachers, that the Founder of a System or School has a prior claim to be heard, and his teaching has first to be proved false, either wholly or in part, before such teachers or exponents have any right to modify or correct or even expunge the whole or a part of his doctrine. Such, unfortunately, has been the fate of Hahnemann's doctrine of the homœopathic dose, and to-day the Hahnemannian practitioner is the exception rather than the rule. So much is this the case that this small minority of homœopathic physicians have had applied to them the significant epithet of Hahnemannians.

Rightly construed, however, such an epithet is more an honour than a disgrace, and to be "mad after Hahnemann" is to have "a method in the madness." I have always been of opinion that homœopaths, who differ from each other in essential points of doctrine and practice, owe this difference partly to want of sufficient knowledge of Hahnemann's writings and partly to want of sufficient appreciation of them. Take the *Organon*, for instance, which might truly be called the Bible of Homœopathy, and, like its religious prototype, contains the truths of the Science of Medicine. How many there are who fail to carry out the teaching of this great work, and, in the matter of dose, please themselves or their friends, who are never guilty of using drugs in

any but crude preparations, and to whom the doctrine of high drug dynamisation is a matter of every day ridicule. They say they follow the master in his earlier teaching and practice, and ignore his later and riper experience as the product of senility. The green old age of Hahnemann was sufficient proof against senility, and the master's greatest work, "The Chronic Diseases," was the conception of his old age. We, who are met here this evening to do honour to the memory of the greatest genius the medical world has seen, will do well to unite ourselves in common admiration of the master and of his teaching in every detail; and as we have selected for this evening to refresh our memories of the teaching of Hahnemann on the question of dose, I make no apology for making a number of extracts from the concluding sections of the *Organon*, wherein the subject is so clearly and so beautifully elucidated. I begin at Section 275 of Dudgeon's translation of the 5th Edition. If our appreciation of the master's beautiful teaching in this direction will help us to a better knowledge of Homœopathy and a better practice of it, then may we consider that the spirit of the master has rested in blessing on us, who have assembled here this evening to do honour to his sacred name.

In section 275 we read : The suitableness of a medicine for any given case of disease does not depend on its accurate homœopathic selection alone, but likewise on the proper size, or rather smallness, of the dose.

* § 279. Experience shows universally that the dose of the homœopathically selected remedy can never be prepared so small that it shall not be stronger than the natural disease, and shall not be able to overpower, extinguish and cure it, at least in part, as long as it is capable of causing some, though but a slight preponderance of its own symptoms over those of the disease resembling it.

§ 285. The diminution of the dose will thus be promoted by diminishing its volume, so that, if, instead of a drop of a medicinal dilution, we take but quite a small part of such a drop for a dose, the object of diminishing the effect still further will be very effectually attained; and that this will be the case may be readily conceived for this reason, because with the smaller volume of the dose but few nerves of the living organism can be touched, where-

by the power of the medicine is certainly also communicated to the whole organism, but it is a weaker power.

In the note to this section : For this purpose it is most convenient to employ fine sugar globules of the size of poppy seeds, one of which imbibed with the medicine in high potency, i.e., of the 30th and put into the dispensing vehicle constitutes a medicinal dose, which contains about the 300th part of a drop, for 300 such small globules will be adequately moistened by one drop of alcohol. The dose is usually diminished by laying one such globule alone upon the tongue and giving nothing to drink. If it be necessary in the case of a very sensitive patient, to employ the smallest possible dose and to bring about the most rapid result, one single olfaction merely of a globule the size of a mustard seed will suffice. Note to § 288. I can scarcely name one in a hundred out of the many patients that have sought the advice of myself and my assistant during the past year, whose chronic or acute disease we have not treated with the most happy results, solely by means of this olfaction ; moreover, I have become convinced (of what I never could previously have believed) that by this olfaction the power of the medicine is exercised upon the patient in, *at least*, the same degree of strength, and that more quietly and just as long as when the dose of medicine is taken by the mouth.

§ 288. Hence we see that the action of medicines, in the liquid form upon the living human body takes place in such a penetrating manner, spreads out from the point of the sensitive fibres provided with nerves whereto the medicine is first applied with such inconceivable rapidity and so universally through all parts of the living body, that this action of the medicine must be denominated a spirit-like or dynamic action.

As usual on these solemn occasions no discussion was invited on the paper read, the President, who proposed a vote of thanks to Dr. Younan, observing that any one intending to speak on the subject of the paper may do so at an ordinary meeting of the Society. Then with his permission, Dr. Hurro Nath Roy made the following observations on the present status of Homœopathy in Calcutta :

Our President has justly lamented the existence of disunion

in our ranks; and has seriously asked us to decide whether this state of things ought to continue. The disunion is daily increasing. Why there should be a division in our camp when we are in such a hopeless minority, is more than one can understand. This is a matter which is deeply to be regretted. Unless and until we learn to act in concert, we can never expect the true advancement of the system of treatment which we profess and practise.

Gentlemen, you ought to remember that the seed that was sown in this city by the late respected Babu Rajinder Dutt would have perished and not developed into the goodly tree we now have with its branches spreading throughout India, had not the infant plant been nursed and watered by Dr. Sircar, who, you should know, sacrificed all his future prospects and his extensive allopathic practice at the altar of Homœopathy. Though he was warned by his *confères* and teachers that if he announced his change of views, all the avenues to success in his career as a physician would be closed to him, the warning had no effect on him. His acute mind perceived the truth that lay in Hahnemann's doctrine. And a man of his fearless independence and fervid love of truth could not stifle his convictions. He rendered due justice to Hahnemann, and openly avowed his belief in the truth discovered by the great German at a meeting of the Bengal Medical Association, of which he was Vice-president, held in February 1867. Homœopathy would have been nowhere in Calcutta or in the Mofussil, had he not successfully shaken the foundations of the old temple of *Æsculapius*, by his remarkable cures and his powerful advocacy of the system in his Journal which he started soon after his conversion. His conversion compelled some of the regular and qualified practitioners of the city to seriously reflect on the subject, and their ultimate conversion gained an accession of strength to Homœopathy. There would have been by this time a still larger influx of regular practitioners into the field of Homœopathy, had the existing practitioners acted in unison, and had unity been their strength. There should be no division amongst us at all when we are disciples of the same great Master. The members of the orthodox school are certainly superior to us in this respect. They act in concert, and there is such a thing as sympathy and good feeling amongst

them. We are injuring our cause, and retarding the progress of Homœopathy by keeping ourselves aloof from each other, and not helping each other for the advancement and glory of the great work which we have undertaken. Unless we co-operate with our heart and soul against the strenuous and persistent opposition of the members of the dominant school, we shall certainly not be worthy of our illustrious Master. Consider for a moment what persecutions he had to undergo. We must in the same way set at naught the jeers and jibes of the orthodox school, when we are perfectly conscious that we are the most advanced section of the profession, and that our system of treatment is free from that uncertainty, obscurity and difficulty which beset the traditional system. Experience is said to be the mother of wisdom. Verily she has been to traditional medicine rather a blind leader of the blind; and the history of medical progress is a history of men groping in the darkness, finding seeming germs of truth one after another, only in a few days to cast each back to the vast heap of forgotten baubles that in their day had also been mistaken for verities.

We must not rest till we succeed in convincing the public that the diminution of the duration of diseases, the rapidity of their cure, the absence of tardy and troublesome convalescence, the simplicity of therapeutic agents, the absence of repugnance and of the painful effects, caused by the draughts, lotions, pills, blood-lettings, blisters, cauteries, &c., are the blessed results of homœopathic treatment, and are, therefore, points of great importance, and well worthy of consideration. When we have succeeded in doing this, and we can succeed if we work energetically and in harmony, then will prejudices, sarcasms and invectives cease and give place to impartiality of judgment.

With a vote of thanks to the chair the meeting dispersed not, however, before doing justice to refreshments that were provided in another room.

REVIEW.

Practical Medicine. By F. Mortimer Lawrence, A.M., M.D., Assistant in Practice of Medicine, Hahnemann Medical College; Chief of Medical Clinic, Hahnemann Hospital Dispensary, Philadelphia. Boericke & Tafel, Philadelphia, 1901.

The author very candidly tells us in the preface that "the work as a whole is based upon the masterly teachings of Goodno, and to him must be attributed the practical, though necessarily condensed, directions as to treatment." He acknowledges his indebtedness to Dr. William B. Van Lennep, in the preparation of the articles dealing with semi-surgical conditions, notably appendicitis, intestinal obstruction, cholelithiasis, and nephrolithiasis; to Dr. Clarence Bartlett for the section devoted to clinical methods and neurology; and to Dr. Weston D. Bayley for the clinical examination of the nervous system.

Thus the work is professedly a compilation, but it is an excellent compilation, in which the fundamental facts requisite to the practice of medicine have been set forth concisely but so very lucidly that the facts are easily grasped and remembered. The author has described pathological processes rather than details of morbid anatomy, in order to show the correlation of the symptoms of disease to the underlying changes. In connection with diagnosis he has very properly included the more important modern laboratory methods. In addition, he tells us that "each section is preceded by a brief resume of the essential points to be ascertained by interrogation of the patient, and of the physical methods by which the examination should be completed."

What is here meant by *each section* it is not easy to understand. If each of the twelve main divisions of the book is meant, under the headings of (1) Infectious Diseases, (2) Diseases of the Circulatory System, (3) Diseases of the Respiratory System, &c., then the author is not quite correct, as we do not find under each and all of these divisions the essential points ascertainable by interrogation of the patient. For while we find them in the beginning of the sections on Infectious Diseases and Diseases of the Circulatory System, we do not find them in the beginning of the main section on Diseases of the Respiratory System, but only under a subhead

of the section, namely, Diseases of the Lower Respiratory Tract. There are interrogatories under the subsections, Diseases of the Stomach and Intestines, and Diseases of the Liver and Gall-ducts, but not in the beginning of the main section, Diseases of the Digestive Tract. There are no interrogatories under the sections, Diseases of the blood, Diseases of the Ductless Glands, Constitutional Diseases, though we think interrogatories might well have been introduced under each of these. There is an interrogatory in the beginning of the section on Diseases of the Nervous System, but none under the remaining sections, namely, Diseases of the Muscles, the Intoxications, and Animal Parasitic Diseases.

We have been so particular about this matter because the interrogatories form a new feature of the work, and are very important to the student for whom the book is intended, as the following specimens will show :

When attention is directed to the heart or blood-vessels, it is important to ascertain if there be—

1. A *family history* of gont, rheumatism, heart disease, Bright's disease, or paralysis of cerebral origin (hemorrhage, thrombosis, embolism).

2. A *personal history* of rheumatic fever, chorea, scarlet fever, diphtheria, syphilis, and other infectious diseases. In children inquire concerning sore throats and "growing pains."

3. *Subjective sensations.* Does he suffer with dyspnea? Can he sleep lying down, or must he sit up in bed? Does he have any precordial pain or distress? What is its exact situation and character? Does it radiate or not? If so, in what direction? Does he complain of palpitation? What is its relation to meals and to exertion? Does the heart give an occasional thump? Is his sleep good or bad? Does he dream? Is vertigo ever present, and when?

4. *Signs of venous stasis.* Do the feet ever swell? Is his digestion good? Does his nose ever bleed?

Should the symptoms elicited by general interrogation point to disease of the bronchi, lungs, or pleurae, the examiner should inquire particularly regarding :

1. A *family history* of bronchitis, asthma, phthisis, or scrofula.

2. The patient's *occupation* : Is he exposed to irritating fumes or dust?

3. *Symptoms.* Has he had enlarged glands in the neck? Does he sweat at night? Is he losing weight?

Cough : its character and frequency; when is it worst? Does it cause any pain? Does it ever cause him to vomit?

Expectoration : its amount and character. Is it yellow or not? Does it ever contain blood? If so, is it only after severe coughing? Is the blood dark; or frothy and bright?

Chest pain : Is it worse on taking a full breath ? Is it constant ? What is its exact location ?

Dyspnea : When does it occur ? If it is paroxysmal, let him describe an attack.

A glance at these interrogatories will show that they are susceptible of improvement and amplification, but the student may be thankful for what they have.

The etiology, pathology, symptoms, the varieties and complications (where they exist), diagnosis and prognosis of the diseases are given fully yet without superfluity of language. They are sound, reliable, and up to date. We wish we could accord the same praise to the therapeutic part of the work. As we have seen the author has admitted that following Dr. Goodno he has given his directions as to treatment in a condensed form. We are constrained to say these directions are too condensed to be of much practical value. If this has been the influence of Dr. Goodno, it has literally been no good in the compilation of the department of the work which really constitutes practical medicine, the department of therapeutics. Not only this, but in many instances the recommendations are hardly what we should have expected from an author of the new school. Thus—

For treatment of Asiatic cholera all that we have is : "Of remedies, administer *camphor* in drop doses on sugar during the initial stage. When diarrhoea, vomiting, cramps, and failing circulation appear, *cuprum*, *cuprum arsen.*, or *verat. alb.*, should be given. Later, when reaction is established, *baptisia*, *bryonia*, or *rhus* may be indicated ; or the suppression of urine and symptoms of nephritis will afford indications for the use of *cantharis*, *rhus tox.*, or *terebinth.*" Is it possible to treat a case of cholera properly from these hints alone ? A host of remedies, useful both in the stages of full development and collapse, and of reaction, such as *ricinus*, *hydrocyanic acid*, *cobra (naja)*, *aconite*, *belladonna*, &c., are not mentioned.

Under Aneurism the treatment is very properly said to be unsatisfactory, but while *potassium iodide*, in doses of gr. x—xx, three times a day for a period of weeks, is recommended, no mention is made of the salts of *barium*, carbonate and muriate, which have been found useful and even curative in the lower potencies, are not mentioned at all.

Under treatment of acute intestinal obstruction the patient is directed to be placed at rest, food withheld, and morphia gr. $\frac{1}{4}$, with atropine, gr. 1-20th, recommended to be given to control the excessive peristalsis! "And should relief not be secured within twenty-four hours, immediate operative interference should be urged." As if homœopathy had nothing to offer on the law of similars. Has not, in numbers of cases, sometimes *opium*, sometimes *belladonna*, sometimes *plumbum*, selected according to symptoms, saved the patient after the indispensability of the knife was pronounced by the surgeon, and was "refused" by the patient or his relatives?

The influence of Dr. Van Lennep in semi-surgical cases seems to have been too great. "As soon as appendicitis is suspected," the author seriously recommends that "a surgeon should be called in and *as a rule* operation advised." It is only "when operation is refused" that the patient should be treated medically. Dr. Lawrence has himself well shown how "at times a number of other conditions may closely simulate the disease," such as acute intestinal indigestion, renal colic, biliary colic, floating kidney, and we may add even ordinary lead (intestinal) colic. What would be the result, in such cases, of an operation on mere *suspicion* of appendicitis? Besides, have not scores of cases of appendicitis been cured without surgical interference and with purely medicinal treatment?

We could multiply examples of such meagre and unsatisfactory directions for treatment. Indeed, as we have already hinted, the therapeutic portion of the work does not come up to the full requirements of the homœopathic practitioner. As a preliminary and preparatory guide to the student and the beginner and even for the advanced practitioner the volume before us is excellent and admirable; but its therapeutic portions will have to be considerably amplified and modified in order that it may serve as a competent guide in practice. When a second edition is called for, which we are sure is likely to be at no very distant date, the author would do well to add sections on diseases of the genital organs and of the skin without which the work would not be complete.

International Homœopathic Medical Directory. 1902. New Series.

Eighth year of publication. Homœopathic Publishing Company, 12, Warwick Lane, Paternoster Row, London, E. C.
Price 2 shillings.

It is no small gratification to all who have the interest of Homœopathy at heart, that this useful publication should be improving from year to year, as will be seen from the Preface which we give here entire :

The present issue of the DIRECTORY inaugurates a new departure foreshadowed in the preface of last year in these words :—

“A proposal has come to us from the United States of the North to open a department for such of our American confrères as would like to give Western Homœopathists the convenience of having their addresses, where they can always be found. As this would add to the expense of the work, a somewhat higher rate of subscription would have to be charged. The suggestion has been made that American practitioners who subscribe one dollar shall have their names inserted, and shall have a copy of the DIRECTORY mailed to them.”

The response to this invitation has been so encouraging, that there is every prospect of the department becoming an important feature in future issues. The names and addresses of many well-known homœopathic practitioners will be found in the list, and it will be a very great convenience to European and other practitioners to have them handy for reference. South America is for the first time represented in the DIRECTORY, four countries having been added. The European lists have been revised as usual, that of the German Empire having been very thoroughly revised by Dr. Alexander Villers. Others who have kindly assisted in the work are : Dr. Kafka, Karlsbad (Austria); Dr. S. Van den Berghe, Ghent (Belgium); Mr. A. J. Van Wyke, 116 Van Ostadestraat, The Hague (Holland); Dr. Cartier, Paris (France); Dr. Guiseppe Bonino, Turin (Italy); Dr. Leon Brasol, St. Petersburg (Russia); Dr. Cahis, Barcelona (Spain); Dr. Grundal, Stockholm (Sweden). Dr. H. M. Patton and Dr. A. R. Griffiths, of Montreal, and Mr. D. L. Thompson, of Toronto, are sincerely thanked for help with the Canadian list. Dr. Mahendra Lal Sircar, of Calcutta, has taken much pains with the Indian list, and has given valued aid in its compilation; so far as possible an alphabetical order has been observed in the arrangement of the names. Mr. E. G. Owen, of Melbourne, has again given kind help with the list for Australasia. To Mr. José A. Fontela, of 53, Calle 18 de Julio, Montevideo, the DIRECTORY is indebted for the whole of the lists for Uruguay and Argentina. Acknowledgments are also due to Dr. Bernard S. Arnulphy, of Nice, for information about the Continent; and to Dr. T. M. Dillingham, of New York, and Dr. Petrie Hoyle, of San Francisco, for valued help in compiling the United States list.

The response to the invitation to the practitioners of the United

States, though considered encouraging by the publishers, does not appear to us to have been as encouraging as it might have been, the response having come from only eighteen out of some thousands. Perhaps the addition of 50 cents to the price of the Directory for such American subscribers has acted as a deterrent. The Homœopathic Publishing Company would do well not to enhance the price, as we believe the additional expense that the insertion of new names and addresses would entail, is likely to be compensated by the increased number of subscribers.

Our own share in the compilation of the Indian list has not been much, as it has been limited to the finding out and verification of the addresses of regular homœopathic practitioners in Calcutta, and the omission of the names of such as died in the last year. We find, however, that the name of one deceased practitioner, Dr. M. M. Bose, still figures as living, though to the best of our recollection we omitted the name. The names of a few are mis-spelt, thus for Aksay Kumār Datta and Tin Kowry Mukherji we have Ahshary Kumar Dutta and Tin Koury Mukhirgen, probably from the fact of English compositors not being familiar with Indian names. This defect may be remedied in future by sending the list printed instead of in MS. But this will entail some expense.

In the present state of Homœopathy,—which, though it has not only survived the most unrelenting persecution of a century but has leavened the whole profession with the spirit of its fundamental principles, is strangely enough still unrecognized by universities and by Governments,—these Directories serve a much more useful purpose than that of merely furnishing the names and addresses of homœopathic practitioners, namely, that of an index of the progress of homœopathy throughout the world. We therefore wish success and prosperity to the Directory under review as the only one of its kind, no other directory having taken the whole world in its scope. Great credit is due to the publishers for their bold enterprise, and every encouragement should be given to them to successfully carry it out.

EDITOR'S NOTES.

Four Caesarean Sections on One Patient.

Dr. N. Charles, a well-known obstetrician of Liège, has recently, as we learn from the *Journal Médical de Bruxelles* of February 6th, performed Caesarean section for the fourth time on a small rachitic patient whose pelvis measures only 6 centimetres in the sacro-pubic diameter. Both mother and child are doing well. Of the three children previously brought into the world in the same fashion, two are in good health; and one died of bronchitis at the age of 13 months.—*Brit. Med. Journ.*, Feb. 15, 1902.

Toxic Dosage in the Treatment of Some Nervous Diseases.

At the recent annual meeting of the New York State Medical Society (*Boston Med. and Surg. Jour.*, February 13th, 1902) William C. Krauss, of Buffalo, read a paper on this subject. He said that failure in the treatment of nervous disorders often resulted from the use of small and inefficient doses. Thus, the dosage of bichloride of mercury was said to be 2 gr., but to be effective in brain syphilis it was necessary to give the drug hypodermically in doses of 1 gr. or 2 gr. a day. Again, the usual dosage of Fowler's solution was between 5 and 10 minims, yet he had obtained some surprisingly good results in chorea by increasing the dose to 30 or even 60 minims three times a day. In neuralgic and neuritic disorders nitroglycerine should be boldly pushed up to the point necessary to cause a cessation of the pain. This drug has proved in his hands especially satisfactory. If the large doses caused a throbbing headache, it could be easily relieved by the use of the bromides. H. R. Hopkins, of Buffalo, said that during the past year the mortality in severe cases of delirium tremens had been reduced from about 80 per cent. to less than 2 per cent. by first the abstraction of 1 or 2 pints of blood, and then the infusion of double this quantity of normal salt solution.—*Brit. Med. Jour.*, March 15, 1902.

The Placenta in Therapeutics.

Brain and ovary, the thyroid and thymus glands, and so forth, have for some time been laid under contribution as therapeutic agents. A more recent development of opotherapy is the exhibition of the placenta. In a paper read before the Paris Société de Biologie on February 1st, Bouchacourt stated it had been scientifically demonstrated that the placenta was an internal secreting gland. Placento-

phagy is an instinct which exists in all animals, even under domestication. Man alone has usually shown his repugnance and repressed the instinct, but not universally, for among some tribes of Brazil, Asiatic Russia, North America, and the Soudan, the placenta is still eaten. The author also states that it was employed among the ancients and in mediæval times for various purposes—as an aphrodisiac against sterility, in epilepsy and apoplexy, and, above all, to induce uterine contractions. More recently Iscovesco (1898) has used placental preparations in chronic metritis and in puerperal subinvolution. According to Bouffard (1900) and Regnault (1902) placental substance is of the greatest assistance to the lying-in woman, and is used as a specific in chloro-anæmia. Bouchacourt has found that the substance employed therapeutically stimulated the mammary glands. In 9 cases, 5 of which were contributed by Brindeau, there appeared to be no doubt as to its action in this direction. In a nullipara 14 grams of placental substance (sheep) led to increase in the size of the breasts with colostrorrhœa. In large doses it purges.—*Brit. Med. Journ.*, March 1, 1902.

Lead Colic and Appendicitis

♥ Bernard, in an important monograph on lead colic (*Thèse de Paris*, 1901) points out that there is often some difficulty in the diagnosis of lead colic from appendicitis, and vice versa. In many instances it may be impossible when first called to a case to decide which is in reality the lesion present. The writer refers to a case recorded by Florand, in which the appendix was amputated on account of certain abdominal symptoms suggestive of appendicitis. The following year the patient suffered an attack of an exactly similar nature, and then it was found that he was the subject of lead colic. The inference is that the previous attack was of a similar nature. The author is of opinion that cases presenting symptoms which might be explained on either hypothesis should be safely put to bed and watched, for in twenty-four hours the diagnosis ought to be cleared up. Absence of pain in McBurney's point, the absence of fullness and resistance in the appendicial area, the course of the temperature, and the appearance and character of vomiting should point to a correct diagnosis. The most awkward cases to deal with are those in which there is a distinct history of plumbism, but who actually do suffer from appendicitis due to the most usual cause. There are cases recorded which began as a typical lead colic, and ended fatally some days later with perforated appendicitis. The question is asked if by any chance plumbism might not of itself be the cause of appendicitis.—*Brit. Med. Journ.*, March, 1.

Brain Tumour Localized by Means of the Roentgen Rays.

At the February meeting of the Philadelphia College of Physicians (New York *Med. News*, February 15th, 1902), Charles K. Mills and G. E. Pfahler presented a communication which included the report of a case of brain tumour localized clinically and by the Roentgen rays. The clinical diagnosis of a sub-cortical tumour mainly in the parietal region and extending to the internal capsule was made. Pfahler made skiagraphs of the patient and obtained a shadow which exactly confirmed the clinical localization of the tumour. Operation was followed shortly by death. The necropsy revealed a large fibrosarcoma in the situation above-mentioned, only a portion of the tumour having been removed at the time of operation. Experiments upon cadavers were then made by Pfahler, the results being extremely satisfactory. Tumours of various sorts were placed within fresh brain substance or brain that had been hardened and after closing the skull skiagraphs were made. The conclusions reached after several series of experiments were as follows: (1) Fibrosarcomata and perhaps other tumours can be photographed in the living subject and their location shown. (2) Other varieties of tumours can be photographed in their most usual locations. (3) Other abnormalities in brain tissue itself can be photographed. This may in certain cases be of value in diagnosing cysts, haemorrhages, etc. (4) The most careful technique and regard for the special conditions in each case must be observed. (5) Shadows obtained in normal portions of the brains studied show that the utmost care in interpreting any shadow obtained is necessary.—*Brit. Med. Journ.*, March 15, 1902.

The Poisonous Cooperation of Alcohol and Tobacco.

It cannot be doubted that when evil effects ensue upon smoking tobacco they are very much intensified by indulgence in alcohol. Further, though even after a more than moderate indulgence in tobacco no toxic symptoms such as headache and stupor may supervene yet such would probably be the case if alcoholic drinking was practised at the same time. The powerfully solvent action of alcohol is sufficient explanation of this. It is, of course well known in pharmacology that the active constituents of drugs are, as a rule, readily soluble in alcohol though not in water, and hence the class of preparations known as tinctures. Similarly nicotine and the pyridine bases are very easily soluble in alcohol. The chief poisonous constituent of tobacco smoke is pyridine and not nicotine. Pyridine is a poisonous base not so easily soluble in water as in alcohol. Pyridine bases can

be easily traced in the mouth of an immoderate smoker, and especially the smoker of cigars. An alcoholic drink is therefore calculated quickly to wash out this poisonous oil and to carry it into the stomach absorption of the poison ensuing, giving rise to definite toxic symptoms, due not so much to alcohol or pyridine bases alone as to the combined action of both in the manner indicated. Such symptoms, would probably be avoided if smokers would abstain from drinking alcohol at the same time that smoking is being indulged in. Many a headache or malaise would thus be guarded against if at the time of smoking no alcoholic beverage were taken. An alternative plan would be to pass all the smoke through an absorbent, such as water, as in the hookah, and thus to exclude the poisonous oils. In such a case the accompaniment of an alcoholic drink would doubtless be much less injurious.—*Lancet*, Feb. 1, 1902.

Small-pox and Vaccination—A Story with a Moral.

Under the above caption the Minneapolis Tribune in a recent issue speaks editorially so much to the point that we quote and trust that a repetition may be of value to our readers.

"The story of a successful campaign waged in Cleveland, Ohio, against small-pox without a resort to vaccination will be interesting in this city and state, in view of the talk that is being made by some of the health officers in regard to danger of a smallpox epidemic. It is stated that Cleveland has not had a case of small-pox in five months, although for two and a half years previously it was not without from 10 to 100 cases constantly. Quarantining and vaccination seemed to have no effect. Then the state health board took a hand and threatened to quarantine the city against the state unless two more pest houses were established and a more thorough vaccination crusade were conducted.

"This plan was followed for two months without producing any perceptible betterment; but in July last a new health officer was appointed—one Dr. Martin Friedrich—who at once stopped the vaccination crusade and instituted a house-to-house disinfection by sanitary officers. He and his assistants went about burning sticks of formaldehyde; he sent men to burn garbage heaps and to disinfect shops and factories and schools. A rigid quarantine of all persons exposed was established, but none was compelled to bare his arm for vaccination.

"The effect of this treatment, as we learn from a Cleveland dispatch to the Philadelphia North American, was almost immediately noticeable. In a short time there was not a patient left in any of the pest

houses. Dr. Friedrich, in explaining his position, says he is not opposed to vaccination if absolutely pure virus can be had, but that after all cleanliness and disinfection are more effective than anything else known, not only against smallpox, but against all other kinds of contagious disease.

"Speaking of the importance of absolutely pure vaccine points, he says he would never allow one to be used unless he was sure it was taken from a cow not kept in a stable; that when cows are so kept it is impossible to insure that tetanus germs will not develop in the sores on her udder. For perfect safety, the animal must be kept in a place as clean as a parlor. Tetanus is incurable, the doctor further avers, but smallpox is a comparatively easy thing to cure."—*Minneapolis Homœopathic Magazine*, Jan., 1902.

The Unequal Growth of Twins.

Bendix (*Jahr. f. Kinderheilk.*, December, 1901) discusses the problem presented to any one who watches the unequal development of twin children under equal dietetic measures and an exactly similar environment. Twins are thus convenient subjects for demonstrating the individual element in the process of growth. A perfect diet, according to general principles does not necessarily produce ideal development. Some infants seem to assimilate and thrive upon the most fearful and wonderful methods of feeding, such as coffee and bread, or milk far too diluted and continued for months together. Others waste though receiving food which theory and experience teaches is that most suitable to their age or condition. The development of the child depends, indeed, upon something more than the quantity and quality of its food, that is, upon its natural vitality, or, in other words, its constitution. Success in rearing delicate children depends upon recognizing the individual capacities of the child, and not blindly limiting one's procedure to those measures successful in ordinary cases. The constitution of a child depends upon the efficiency of its digestive organs, upon the natural vigour of its cell life, and the perfection of metabolism in its whole organism. These functions are further dependent upon the degree of efficiency of the circulation and respiration, upon the amount of muscular exercise, and the influence of light, air, and temperature. Besides these there are, no doubt, other forces at work which cannot be estimated in our calculations on account of their unknown and impalpable nature. Bearing in mind these elements of the constitution, when a rational diet adapted to the age fails in one or two twins, every endeavour must be made to discover which is the weak spot in the organism, even to the extent

of experimenting on the state of its metabolism. But it usually comes to the trying of various food mixtures in succession. Some cases will thrive on a food poor in fat but rich in sugar, while others require an excess of fat and reduction of albumen. In yet others the indications are more complicated and hard to find; such cases will be more amenable to treatment after the further development of the science of dietetics. These reflections of the writer were based on his close observation of 11 pairs of twins. Charts and diagrams are furnished to compare their differences in growth. Only 2 sets grew up with equal weights; in the other 9, 1 child was more or less left behind the other. Although twins are at birth below the average weight they soon make up the deficiency if they are healthy. The initial weight of the 2 was usually nearly equal; the sex was similar in 9 out of the 11 cases and was female in 7.—*Brit. Med. Journ.*, March 8, 1902.

The Pus and Blood in Variola.

In the course of an interesting paper on the diagnosis of variola (*Presse Méd.*, No. 12, February 8th), H. Roger, who has had good opportunities of studying the matter during the two years' epidemic in Paris (still going on at the rate of a few cases a week) gives the results of his microscopical examination of the pus and blood. He first refers to the contents of the small-pox pustule. In this he found a larger number of mono-nuclear cells than is the case in pyæmia, acne vulgaris, and multiform erythema. In the latter conditions staphylococci are found, with polynuclear cells. In variola, however at any rate in the early stage of the pustule, no micro-organisms are present in the pus but it contains small special elements, roundish and oval, which have been looked upon, and rightly Roger thinks, as the specific agents of the disease. In the case of hæmorrhagic variola, the examination of the blood-stained fluids given forth by the patient again shows these small bodies or corpuscles, which are also present in the blood both in the case of hæmorrhagic variola and in the early stage of the pustular eruption. As Courmont and Montagnard have pointed out, the leucocytosis of variola is a mono-nuclear one, but of a special type, that is, a myelocytosis which may be compared to that observed in lymphadenia, and which has been studied by Weil in Roger's wards. The polynuclear cells are always less numerous than in the normal blood. These vary from 40 to 50 per cent., and in bad cases, especially in the hæmorrhagic forms, they may fall to even 20 and even 14 per cent. Of the mononuclear cells the medium sized are the most numerous—30 to 40 per cent. Besides these, there

are large mono-nuclear neutrophils (2 to 10 per cent.), a few eosinophiles (0.5 to 1 per cent.), and a mono-nuclear kind of cell, whose non-granular protoplasm has an affinity for nuclear stains (2 to 10 per cent.). There are also transition forms and eosinophiles, which latter may be as numerous as 1.5 to 3 per cent. at first, followed by a diminution in the course of the disease, to again increase during convalescence. During the period of suppuration and when the pustules are drying up a few white cells are found, either mono-nuclear or polynuclear, and in the basophile granules, but these cells are always few in number. The abnormal cells, abundant at first, persist during the pustulation stage, but gradually diminish in numbers during convalescence. Some are still to be found at the end of forty days. The blood formula of variola is so characteristic as to be of assistance in differentiating it from scarlatina and measles. Varicella, however, shows changes analogous to those found in variola. But this is not to be wondered at, for, according to Roger, the former appears to be due to parasites analogous to those of variola. The author adds that the two diseases differ sufficiently in their clinical characters to offer very little difficulty in arriving at a correct diagnosis.—*Brit. Med. Journ.*, March 15, 1902.

A Thirty Million-Dollar Gift.

Mrs. Jane L. Stanford has transferred to the Leland Stanford, Jr. University, deeds and bonds, stock and realty valued at thirty million dollars. This is the largest single gift ever bestowed on any one institution of learning by anybody, so far as we are aware. This munificent gift places Stanford University in the first rank financially among the great universities of the world. Leland Stanford, Jr. University, will undoubtedly, in the near future, be one of the greatest educational institutions in the United States, and will rank with Harvard, Johns Hopkins, Pennsylvania, Chicago and Cornell Universities. The University has some 1,500 students, of whom about 500 are women. Many of the students come from other cities and foreign countries. Tuition is free to all students who can pass the entrance examination. It costs more than \$ 1,000 a day to run the great University, and President David Starr Jordan, one of the ablest Presidents in the United States, receives \$10,000 a year.—*Pacific Medical Journal*, March, 1902.

When will our countrymen learn the value and virtue of endowing institutions of learning and research ?

CLINICAL RECORD.

Indian.

CASES BY DR. PRASANNA LAL KUMAR, L.M.S.

CASE I. A Mahomedan girl, aged about 16 years, fell ill four or five days after her first delivery. The labour was not easy and a native *dai* (midwife), who was called in for assistance, brought out the fœtus by introducing her hand into the uterus.

I was called in to attend her on the 7th Feb. last, the 4th day of her illness. I saw her at 11 A.M. Her temp. was then 103° F. She was lying on her back with eyes closed. When asked to show her tongue she did so after being shaken and repeatedly and loudly told to do so. The tongue was tremulous, thickly coated, and brown. When questioned about her complaint she made no answer and apparently fell into a sleep and began to move her mouth and lips as if chewing something. She showed signs of great pain when her umbilical and hypogastric regions were touched. The uterus was flabby, very tender, and had not contracted properly. The lochia was stopped. A gurgling sensation was felt on pressing the left iliac region. On the night before she had passed about 20 or 25 loose yellow stools. The liver was enlarged and tender, the spleen was also enlarged. There was dulness and dry crepitation over the right scapular region and downwards. She was very delirious and had scarcely any sleep at night.

Prescribed Bryo. 3x, 4 doses to be given every 4 hours.

In the evening I saw her again; she had only two stools during the day, the stools were thicker. Temp. 103° F., was more quiet. The abdomen was very much distended with flatus. Prescribed China 3x, 2 doses to be given during the night.

Next morning the temp. was 101° F., the tympanitic condition of the abdomen had almost subsided. Had no more stools in the night, but was very delirious, had left her bed at about midnight when every body was asleep and was found lying outside by her sister-in-law. When I asked why she did so she could not remember any thing. The condition of the lungs was slightly better. Continued the same medicine to be taken three doses during the day.

I did not see her again on that day but at about 8 P.M. I was informed that there was no more tympanites, that she was delirious, and that her temperature was 104 F.; stopped medicine.

For some reasons or other I was not called in the next day or the day after.

But on the 11th Feb. at about 9 P.M. I was requested to see the patient again and was told that her malady had taken a bad turn. She had been placed under the treatment of another homœopathic practitioner but as her condition became worse I was sent for again. I was also told that the females of the family would not like to remain in her bed room because of her violent delirium and screams.

When I saw her she was wide awake but would not answer questions. She started up as soon as I touched her hand to feel her pulse which was small, hard and quick. She did the same when I touched her abdomen. During the day she had informed her attendants that her whole body has become tender. I asked about the nature of the delirium and was told that she saw visions of dead persons. She was having normal stool every day and the lochia was making its appearance. There was distinct dulness over the right back below the scapula and downwards and moist crepitations over the whole right back. Gave Acon. 1x, 3 doses to be given every 4 hours.

12th Feb. 8 A.M. She passed a quiet night. I found her lying quietly over the right side. Had slept off soon, she answered all my questions rationally. The condition of the lungs was the same. She told me that the right side was very painful, wanted to take something else than milk and barley and chicken broth which she had been taking all along. Temp. 101 F. Gave Bryo. 3x, 3 doses, one dose every 4 hours.

In the evening temp. 103 F. Dry troublesome cough. Otherwise the same as in the morning.

13th. Temp. 101 F. Slept well at night and had one normal stool, still lying on her right side. Cough troublesome, expectoration mucous and sticky. Wanted to fondle her baby. Would not have barley or sago, must have fish soup. Ordered soup of *palta* ;* continued the same medicine. In the evening temp. rose to 102 F.

14th. Temp. 100 F., respiratory sound over the right back almost clear, slight dulness still present, appetite much improved. Much better in every way. Continued the same medicine twice during the day, and fish soup. I was not called to see the patient any more ; but she became all right two or three days after.

CASE II. On the 25th Feb. last I was called to see a female, aged about 20 years, mother of two children, the younger just a month old.

* A cucurbitaceous creeper, the whole plant bitter, but the fruit bland. Both leaves and tops, and the unripe fruit are much used in curries. The soup of the leaves and tops is given during convalescence from fevers. The root is a violent cathartic.—Editor, *Cal. J. Med.*

I saw her in the following condition :—Lying on her back, quite unconscious, eyes tightly closed, lachrymating profusely on the eyelids being slightly touched, pupils slightly dilated, corneal reflex present to a slight degree. Pulse small, very soft, and frequent, 175 per minute. Temp. 103 F.; extremities slightly stiff. Thumbs bent inward. Passing stools and urine unconsciously.

History. On the 24th Feb. at about noon she had an attack of fever attended with shivering. After about two hours she had a fit of convulsion. The fits became very frequent and a medical man was called in, who finding her unable to swallow any thing injected per rectum 40 grs. of Potas. Bromide and 10 grs. of Potas. Iodide. After this the fits became less frequent, once about every two or three hours. From the night she began to purge once every hour or so. The pulse very weak and almost imperceptible.

Another practitioner was called in. He, finding her able to swallow with some difficulty, gave her a stimulant mixture. During the night she had about twelve liquid stools and two or three fits of convulsion. I saw her on the 25th at 4 P.M. and found her as above. She passed a stool in my presence with noise of flatulence; since morning had passed five stools.

As the patient could not be made to swallow even a drachm of water, one drop of Nux v. 3x in sugar of milk was placed on her tongue, and four doses of Bryo alb. 3x were ordered to be given, one every 4 hours in the same way.

The next day, the 26th Feb., I saw her at about 3 P.M. She had passed no stools during the night but had two stools in the morning, had one fit of convulsion during the night of very short duration. Temp. 100 F., pulse much better, she was still unconscious but was swallowing medicines and diet. Corneal reflex much improved. She yawned and coughed in my presence. I was informed that the day before her illness she had a quarrel with her husband. Prescribed Gelsemium 3x, 4 doses in water to be given, one every four hours.

The next day at about the same hour I found the patient quite conscious, entirely free from fever, but talking incoherently, could not recognise persons. Had two normal stools. Her attendants informed me that she had several sour smelling eructations. Prescribed Nux v. 3x, two doses, one every hour.

The next day, 28th Feb., she was almost all right, speaking sense mixed with some nonsense. Wanted to have some solid food to eat. Getting reddish discharge from the uterus which was slightly painful. Pulsat. 3x, 2 doses.

She was better the next day and was all right after two or three days.

Foreign.**A CASE OF CHRONIC HEADACHE.**

By EDWARD J. BURCH, M.D., Carthage, Mo.

Twenty-five years ago "D. B. S." had an attack of typhoid fever. Since then he has had irregular, but too frequent spells of sick headache. They usually came on during the night. Pain began in occiput, and slowly extended to forehead during the day. Sometimes it settled over the right eye and sometimes it did not. Attacks always preceded by feeling of coldness in the back of the neck. Considerable nausea, but seldom did he vomit. No relief when he did. Motion made him dizzy, as did suddenly assuming the upright position. He described his headache as "splitting." During the attack his face was flushed; in fact, it was habitually red. If let alone the pain lasted two days and nights, usually. After it left the scalp would be sore for several days. During the past four months these headaches have given both of us a great deal of trouble. For a while sanguinaria 6x controlled them. Then bryonia gave relief temporarily. Later, neither remedy was effective in any potency. Sulphur 5m was administered and sanguinaria and bryonia tried again. Every exposure to a cold draught now brought on an attack. Patient declared that whenever he could perspire freely his headache would stop. Also complained that his eyelids felt very heavy, and that his vision was smoky. He then got gelsemium in different potencies, without benefit. In studying up the case I found that chelidonium has the coldness in the neck and occiput, of which my patient complained, and I gave him that remedy in the 6x. Then I prescribed calcarea on general principles. Still he failed to improve. Thinking the trouble might be malarial, I next gave a number of remedies, including quinine (for I was floundering now) to antidote it, but the patient continued to report unfavorably. I wondered why he did not change doctors, but his fidelity was beautiful to see. I cross-examined the old fellow (he is seventy) again and again, but failed to bring out any new symptoms—always the same occipito-frontal pain, preceded by coldness in the back of the neck. The attacks grew more frequent until the pain was practically continuous. I burned the midnight oil more than once over the case, but no remedy suggested itself. One day he told me that he was becoming more and more sensitive to cold. "Why," said he, even drinking cold water makes my headache worse!" The vial of 6x arsenicum tablets I gave him that day—two months ago—now proved to be a most happy strike for him—and me.

—*The Clinique*, Feb. 15, 1902.

A HOMOEOPATHIC "FAIRY TALE."

By CHAS. THEO. CUTTING, M.D., Newtonville, Mass.

On November 12th I was called to see a Miss B., aged 31, who informed me that she was going to have an abscess in her left ear, and desired me to hasten the process so that it would be soon over with. On inquiring into her history I found that both mother and father had died of tuberculosis of the lungs, also three brothers, and a fourth was now unable to leave his bed in one of the Boston hospitals from the same disease.

She had always been well, and showed no sign of the disease. Has had at various times a discharge from one or both ears, which stops after placing in the ear certain "drops" given her by a "homoeopathic" physician.

Five years ago she lost the sight of the right eye very suddenly. She awoke one morning to find the sight gone. She had at different times visited specialists, and all said that it was gone forever, but were unable to find the cause.

Symptoms at the present time were :

Very nervous, starts at least noise. Weeps on going to bed at night because she is "so blue." Vertigo on motion; starts to rise from chair, but has to sit down again.

Frontal headache better lying down in dark room.

At times tearing headache in occiput.

Roaring in both ears, and left feels as if it was stopped up.

Hearing diminished in left ear.

Shooting pain in left ear, going down into throat; better heat.

Feels as if she wanted to scratch "way in the ear."

Swelling of throat externally, sensitive to touch.

Feels as if there was a lump in throat; worse on left side or swallowing.

Nausea in morning; cannot eat in the morning.

After eating a little feels as if she was filled up.

Wants cold drinks.

No desire for stool for days at a time.

Limbs and back ache all over.

Neck very stiff, moves it with difficulty.

All symptoms worse at night.

Pain better from warmth.

Least cold air worse.

There was no temperature, and I could not locate any pus anywhere.

I felt that I wanted to give her Silica, but, owing to the family

history, I hesitated in doing so, but at last did give her a single dose of the 1m.

The following day she said all her symptoms were a little better; pain had almost stopped in the ear, and there was a slight yellow discharge from it.

Two days after she informed me that, to her amazement, she found that morning on awaking that she could see out of the "bad eye," and that the sight was as good as it ever had been. The discharge from the ear was profuse, but all swelling and pain had gone.

Up to the present writing she still retains the sight of both eyes, feels perfectly well, and there is no discharge from the ear.

Any remarks on the above case will be thankfully received.

—*Journal of Homœopathics*, Feb., 1902.

A CASE OF DIABETES BENEFITED BY GENERAL RESTRICTION OF DIET.

By G. S. KEITH, M.D., F.R.C.P. EDIN.

The patient, a man, aged 33 years, had resided for several years in a tropical but not unhealthy climate. He came home early last year as the heat did not seem to suit his health and since then he has been living in North Berwick where he could enjoy his favourite game of golf. He there consulted a medical man and was told that the immoderate thirst from which he was suffering was due to diabetes. The specific gravity of his urine was then found to be 1037. Subsequently he was advised to consult a London specialist who put him on the usual anti-diabetic diet. He was ordered to abstain from everything which contained starch or sugar and was given a long list of animal and albuminous food in which he could indulge. No restriction whatever was put on the quantity of these and, further, he was recommended to take fatty substances *ad libitum*, with the view of restricting the waste of tissue which was going on very rapidly. He soon found that the fats which he consumed in large quantity did not agree with him and his medical adviser in Edinburgh advised him to discontinue their use; this he did with marked benefit.

I first saw the patient about the middle of October, 1901. He had then lost about two stones in weight, but his muscular strength was only slightly impaired, and he was still able to enjoy a game of golf. He had, however, an intense craving for food, suffered from severe thirst, and was likewise passing a very large quantity of urine. I recommended him, therefore, to reduce as rapidly as possible the total nitrogenous intake, and at the same time to introduce a small quanti-

ty of bread into his dietary. I saw him again three weeks later and during the interval he had reduced his total food to a very moderate allowance, while for the last week he had taken for breakfast a couple of ounces of bread which he enjoyed amazingly. The craving for food and water had practically disappeared, while the amount of urine was now reduced to two and a half pints. An analysis of a sample gave the following results ; specific gravity, 1019 ; albumin, *nil* ; and sugar 0.02 per cent. His weight had increased in three weeks by six pounds—a fact which, as I pointed out to him, was no doubt owing to the retention in the system of water which had previously served as the vehicle for the discharge of waste products and in this way had been lost to the tissues. He now resolved to return to the tropics in order to resume the duties which he thought he had finally relinquished. I saw him again two months later (Jan. 6th, 1902) and found that he had made arrangements to leave the country in the middle of the month. In the meantime he had a slight return of his former symptoms, owing probably to the fact that while still reducing his animal food he had indulged somewhat too freely in farinaceous and sweet articles of diet. On the adoption of the diatetic restrictions previously ordered the symptoms once again rapidly disappeared, and at the present moment he is on the point of carrying out his original intention of resuming work.

The interest of this case centres in the remarkable amelioration of the diabetic symptoms which followed a general restriction of diet without reference to particular elements of food. This is nothing new in face of my past experience* and I attribute it, as I have endeavoured to show in my published works, to the curative influence of a restricted diet, more especially with regard to nitrogenous foodstuffs.—*Lancet*, March 1, 1902.

A LEADER—ARGENTUM NITRICUM.

By E. B. NASH, M.D.

Rena Spalding, 14 years of age, blue eyes, dark hair and very rosy complexion, no menstruation ; began while in school to grow languid, lose color and appetite, and became very irritable and nervous. She also emaciated greatly and weakened in the legs, which trembled when she walked so that she could not walk up town, which was only a short distance. On these symptoms she received *Phosphoric acid*, as she had been growing quite tired with all the rest. It did not benefit her in the least. I tested the urine for albumen and sugar. Found none. What was the matter ? That she was going fast into

a serious decline was too evident. She received *Helonias*, with which I had sometimes benefited such cases at her age and with similar symptoms. No result. Finally I learned that notwithstanding her loss of appetite for food in general she had an *irresistible desire for sugar*. Her mother had to hide the sugar bowl and stop making sweet cakes, as she was convinced that this was an abnormal hunger, and knew she continued to grow worse even if she did eat such things. I now gave her a dose of *Argentum nitricum* 200th. The improvement following was simply astonishing. Every untoward symptom vanished, and within a month's time she was the healthiest appearing girl in town.

An examination of *Argentum nit.* will disclose the fact that all her symptoms were covered by that remedy. But there are other remedies that cure all but this one just as well. This case is reported not only as a case of remarkable cure with a potency, but to impress upon all the value of what are called in the *Organon peculiar and characteristic symptoms* (*Organon*, p. 153). Also to prove that it is not necessary to name a disease condition in order to *cure the patient*. This is of immense advantage, for it answers in a very satisfactory way the question, "When doctors disagree who shall decide?" for we can often decide as to what will cure by making the *symptoms* of the case correspond to some one remedy in our vast *Materia Medica*.

Now, while other remedies have desires for sweets in various forms such as *China*, *Lycopod.* and *Sulphur*, only this one has pathogenetically and curatively in just these words, "*Irresistible desire for sugar.*"

I omitted this symptom in my "Regional Leaders," but did not do so in my "Leaders in Hom. Therapeutics." These vagaries of appetite are often the keynote to the remedy indicated in a case; for instance, *Calcarea phos.*, desire for salted and smoked meats, ham, bacon, etc.; children cry for ham rind (*Caust.*).

Tart. em. Desire for fruit and sour things (*Hepar, Verat.*).

Calc. ost. Longing for eggs, particularly with children in sickness or during convalescence.

Nit. acid. Longing for fat, herring, chalk, lime, earth, etc.

Alumina. Wants starch, chalk, charcoal, coal, coffee, tea grounds, indigestible things.

Longing for salt or salt things, *Carbo v., Nat. m., Phos., Verat. alb.*

The *aversions* are just as strong, and as often lead to a choice of the remedy.

I will not undertake to enumerate them here, and only write to

emphasize the value of symptoms of this class, and especially to encourage the younger members to a more diligent study and appreciation of our *Materia Medica* from a symptomatological standpoint. I realize the importance of this, not only because discredit is being thrown upon our provings by some, but because the older I grow and the more exactly I apply drugs to the healing of the sick according to the rules laid down by Hahnemann the more I am satisfied of their truthfulness.—*Cortland, N. Y., Jan. 13, 1902.*—*Homoeopathic Recorder*, February 15, 1902.

A CASE OF FACIAL ERYSIPELAS. *

By R. F. RABE, M.D., Hoboken, N. J.

Dr. G., March 23, 1900. Nose is swollen and shiny, smooth and red, also a part of the right cheek. Feels as though the right nostril was stopped and swollen inside. Throbbing pain. Face flushed. Extremely thirsty, and drinks a glassful at a time. Very drowsy, but cannot sleep, merely dozes off, and then mind wanders; talks foolishly and moans. Aching in back and limbs. Pulse full and bounding. Severe, throbbing pain in head as though the brain were beating against the skull, worse on stooping. Temperature 103.2. Has been attending a brother physician who was ill with facial erysipelas. Belladonna 200, in water, every hour until three doses have been taken.

March 24, 10:30 A.M. Temperature 100.2. Feels slightly better. Swelling of nose has spread to both cheeks. 8 P.M. Has been very drowsy since morning, and falls asleep at once after being spoken to. Is less thirsty. The inflammation has spread over both cheeks, but is of a pale, rosy red color. Nose less red and swollen. Cheeks are œdematous, especially under the eyes and alongside the nose. Complains of stinging sensations in cheeks. The right nostril is discharging thick, creamy pus. Inner canthus of left eye is puffy. The whole face looks very puffy, and is paler than this morning. Very irritable when spoken to. Temperature 103. Apis mel. 1000.

March 25, 10:30 A.M. During the night vomited bile, and while retching had several involuntary watery stools of a grayish color and offensive odor. Swelling of nose and face is slightly less. Tongue is coated white, red in the center, but moist. Nose discharging less, and can again breathe freely through it. Temperature 102.2. *

5:30 P.M. Has been retching a great deal since morning and is very weak. Inflammation has extended further to left side of face and ear. Skin is very sensitive to slightest touch. Body is hot and

dry, or else hot and sweating, especially after taking any nourishment or after an effort to vomit. Very little thirst. Tenacious mucus in the mouth. Mind very dull or apathetic. He drops off into spells of unconsciousness, during which he constantly *whines*. When he comes out of a spell he seems and looks confused. Apis mel. 1000, in water a teaspoonful every hour.

8:30 P.M. Distinct change for the better. Bruised pain in back and limbs is worse. Mind much clearer. Has been sleeping quietly and naturally. Temperature 101.6. Pulse full and strong. Two more doses of the Apis to be given.

March 26, 10 A.M. Vomited some during the night, but slept the latter part of the night until morning. Face about the same. Temperature 100.4. Apis continued, once in three hours.

8 P.M. Feels very much better. Face getting paler, and swelling going down. Skin is cracking and scaling in several places. Talks freely and acts more like himself. Temperature 101.8.

March 27, 10 A.M. Much better this morning. Temperature 99.4. Apis once in six hours.

March 28, 10 A.M. Face peeling off. The left ear is still slightly inflamed. Temperature 98. Apis, two doses, twelve hours apart.

March 29. All inflammation gone; feels stronger to-day. Temperature 98. No further medicine.

March 30. Temperature 98.4. Feels well, sleeps well and appetite is good. Complains of weakness only.

In a few days my patient was out and as strong as ever. This, as may be seen from the report, was a very severe case, showing all the signs of brain irritation and systemic poisoning. Of course, no local applications were used, nor was anything given but the indicated remedy. The first dose of Apis seemed to improve, but its action was of brief duration; therefore, broken and often repeated doses were given, lengthening the intervals as improvement progressed. It is very seldom that a remedy has to be repeated so frequently, but it certainly was demanded in this case.—*Journal of Homoeopathics*, Feb. 1902.

A CASE ILLUSTRATING THE "QUIET PHASE" OF ACONITE.

By R. F. RABE, M.D., Hoboken, N. J.

Mildred A., October 30, 1900; age, 7 years. This case presented a fever, with absolutely no thirst, white-coated tongue and accelerated pulse. Physical examination failed to detect any reason for the same.

The child was quiet and complained of nothing. I gave Pulsatilla 200 partly on account of the symptoms and partly from the child's appearance and demeanor. The following day the condition was unchanged excepting that the fever had increased. Again I examined every organ, but could find nothing wrong. Infantile typhoid suggested itself, but there was nothing to warrant such a diagnosis. The same night I happened to read a few cases of Dr. Yingling in the *Journal of Homœopathics*, Vol. III., page 35. The cases reported were certainly very similar to mine. On the following day, the child being in exactly the same condition as on my first visit, but with a temperature of 104, I gave her a dose of Aconite 900. The next morning the fever was gone and the little patient as well as ever in a couple of days.—*Journal of Homœopathics*, February 1902.

A CASE OF FATAL VACCINATION INFECTION WHICH RESEMBLED APPENDICITIS.

Russel, in *Journal of Amer. Med. Association*, reports a case of fatal vaccination infection which resembled appendicitis. This occurred in a female, 15 years of age, who was brought into the Presbyterian Hospital, Chicago, on March 12, 1901, presenting symptoms which resembled acute appendicitis. Her temperature was 102° F. and her pulse rate 130. The abdomen was tender and quite tympanitic. Marked muscular rigidity was present over the right side. The right thigh was partially flexed and movements of the right limb produced intense pain. Operation was decided upon. The abdomen was opened. The appendix was found healthy; clear serous fluid escaped from the abdominal cavity. On account of the poor condition of the patient further exploration of the abdomen was not warranted. After the operation the patient gradually grew worse, and death occurred on the day following the operation. A few hours after death a complete autopsy was made. The anatomical diagnosis was as follows: "vaccination wound of the right leg; suppurative adenitis of the right inguinal and iliac glands; purulent infiltration of the recto-cecal tissues; diffuse purulo-fibrinous peritonitis; recent laparotomy; acute splenic swelling and general parenchymatous degeneration; ecchymoses in the lungs; hemorrhagic erosions of the stomach and right adherent pleuritis."—J. G. Chadwick, M.D.—*The Homœopathic Journal of Pediatrics*, March 1902.

[Remarks: Would this case have ended fatally, had it not been for the operation? We do not think there could have been a more palpable case of rash, hasty, and reckless surgical interference. For such

of his followers as are too eager to use the knife, Hahnemann had lived in vain.—EDITOR, *Cal. J. Med.*]

AS TO REPETITION OF DOSE. A CASE IN EVIDENCE.

By EDMUND CARLETON, M.D., New York.

A middle-aged lady, who had always enjoyed excellent health, with the exception of a small goitre, which has existed for many years in a stationary condition as regards size, arose one morning feeling as well as usual. Thirty minutes later the goitre had assumed mammoth proportions, and the patient was breathing hard in consequence of the sudden unusual relations of the tissues of her neck. She managed to reach my office in a woeful condition. After making a careful comparison of remedies, I selected *Calcarea ostreorum*. But as the symptoms of patient and remedy are not vital to this history, they are omitted.

Having made my selection of the medicine, I was at once constrained to apply it in a manner suitable to very acute conditions. Consequently she was directed to take of this solution (it was the two hundredth potency), every thirty minutes until a slight improvement could be observed, and then every hour until breathing became tolerably easy. After this the same rule of leaving off was to be followed in geometrical progression. In a few hours she was a little better; and this improvement was so rapid that in a few days she discontinued the remedy altogether. Two weeks later the goitre had entirely disappeared.

• We have been accustomed to regard *Calcarea* as a remedy to be given to adults but once, and then in a high potency. This case shows that acute conditions may demand frequent repetitions—even of *Calcarea*.—*Journal of Homœopathics*, November 1901,

Gleanings from Contemporary Literature.

SHOULD MILK BE BOILED ?

By W. B. RANSOM, M.A., M.D., F.R.C.P.,
Physician to the General Hospital, Nottingham.

SOURCES OF CONTAMINATION OF MILK.

The slightest acquaintance with the methods of the farmer, the dairyman, and the milkman shows that pure milk is an unknown substance on our tables. Secreted perchance in a healthy mammary gland, the fluid is drawn through unwashed rustic hands into a pail placed under the dung-spattered udder and belly of a cow who spends at least half her time in a dark and noisesome byre, carpeted with a slush of decomposing urine and faeces and papered with the splashings of the same, while the air is thick with the bacterial flora of these admirable culture media and of the bovine alimentary canal. What wonder that the bottom of a milk-can nearly always exhibits a rich sludge, and thus serves the purpose of a cesspool or septic tank ? It has been calculated that the inhabitants of Berlin consume in their milk 3 cwt. of excrement per diem. Even in the milk of one of the most model dairies of this district, where hand-washing and teat-washing are supposed to be *de rigueur*, have I seen this sludge, which the milkman said he could not understand, because he always strained the milk through a cloth before sending it out ! And on arrival in the city do we not daily see a row of milk-carts in the bright and perfumed air of Station Street, where milk is being poured from big cans into smaller ones through dirty cloths which between their services lie about anywhere ?

When in addition to the chances of pollution we recall the contaminated water with which in country places the milk cans are often washed, the contaminated atmospheres of shops and cellars in which the milk retailed to the poor is usually stored, we no longer wonder that milk, even from a healthy cow, occasionally makes people ill.

But in the present state of the law we have no guarantee that our milk does come from a healthy cow, and in most English towns milk is sold coming direct from udders which are affected by tuberculous or other inflammatory disease, and from which in milking a considerable quantity of pus is squeezed into the milk can.

PATHOGENIC PROPERTIES OF CONTAMINATED MILK.

Thus, as matters now stand, we are liable to drink milk which may come from a diseased cow and which is almost invariably exposed to contamination by subsequent dirt. The milk on which our children mainly live may be primarily or secondarily a pathogenic fluid. Thus epidemics of scarlet fever and diphtheria have been traced to the milk from diseased cows, while the virus of these diseases and of typhoid fever has been introduced by infection from the *personnel* of the dairy or milk seller. Tuberculosis I will not dwell on, though I think that cases of milk infection in that disease

have been made out. But undoubtedly the main disease caused by milk is the summer diarrhoea or gastroenteritis of hand-fed infants, the mortality from which is appalling. Thus the deaths in Nottingham among children under 1 year of age were in 1900 equal to 196 per 1,000 born, and in 1899 to 210 per 1,000, and the total of deaths from diarrhoea in 1889 being 600.

During the summer of 1899 the epidemic of infantile diarrhoea spread all over England, and the death-rate everywhere rose; for example, in 67 large towns from 156 to 179 (or *plus* 23) per 1,000. To this increase, however, there was one notable exception—St. Helens—where it fell from 176 to 157 (or *minus* 19). In this town Dr. Drew Harris, the energetic M.O.H. in August started the public distribution, in closed bottles, of milk which had been exposed for three-quarters of an hour to a temperature of 102° C. Although the distribution only began in August, the effect was to cause the infantile death-rate of the whole town to fall from 176 to 157, while among the consumers of the sterilized milk it fell to 103. This system was introduced in 1894 at Fécamp, in Normandy, by Dr. Leon Dufour, with the result that in 1898-99 but 1.3 per cent. of the infants drinking the sterilized milk of the *goutte de lait* died of enteritis; while the mortality of the other town infants from the same cause was 10 per cent.

It is hardly necessary to bring further evidence that sterilizing the milk checks summer diarrhoea, for this is admitted, I think, by all.

ALLEGED SCURVY OF BOILED MILK.

What, then, is the harm of heating milk to such a temperature as will kill pathogenic germs? It has been alleged that the nutritive value of milk is largely diminished by boiling, and that it causes rickets, infantile scurvy and tuberculous diseases in infants, and deficient nutrition in the aged and sick. Further, it has been complained that boiling kills the living cells and coagulates the albuminoid constituents, so that they must be digested before being absorbed, whereas it is implied that the living cells of fresh milk enter the circulation direct as living protoplasm and build up the tissues direct. Again, Dr. Frederick Smith speaks of the number of babies seen as out-patients "who are made peevish, fretful, and even seriously ill by the pernicious effects of boiled milk on their nutrition." Dr. Smith's opinion is based on impressions gained in the out-patient room of the London Hospital. What hospital physician has not seen babies peevish, fretful, and seriously ill from the use of unboiled, sour, and adulterated milk; and what guarantee can there be, even if the mother says she has boiled the milk, that the boiling was efficiently carried out; that the many precautions needful to prevent subsequent contamination were taken, or that the milk was originally of good quality and not diluted or adulterated?

Let me quote from Dr. Variet, of the Hôpital des Enfants Malades, Paris, where for ten years sterilized milk has been distributed (as at Fécamp) to the infants of the poor, the children being afterwards weighed and inspected weekly by the doctor. The milk is either sterilized at Paris in a Soxhlet's apparatus or sterilized beforehand in Normandy at 115° C.:

In these conditions we have given this milk to a number of infants carefully looked after, and have noted neither rickets nor infantile scurvy. In five years I have had about 200,000 litres of sterilized milk distributed to 1,000 infants, and have never observed a single case of Barlow's disease. Rickets is very exceptional.....Infantile scurvy is rare in France. Ten cases have been collected, and 7 of these can be imputed to "humanized milk" made by Gaertner's method. It would seem that the modifying of milk rather than the sterilization does the harm. Farinaceous mixtures and milks artificially made up in laboratories by the method of Ratch seem to us most dangerous food even if well sterilized. We have brought up a large number of healthy and even atrophic children with sterilized milk. The tracings of their growth, without being as perfect as in the case of infants nursed by their mother, are nevertheless very satisfactory in general.

Again, Holt in his textbook says :

I have carefully investigated this question [infantile scurvy] in the records of three institutions in which for five years sterilized milk was the standard food for all artificially-fed infants. The number of children under 18 months who had this diet is nearly 1,000. During this period but 2 cases of scurvy were observed and in neither case had the child been upon a diet of sterilized milk. However, I have recently seen in private 2 cases of scurvy in which the cause seemed to be prolonged sterilization at a high temperature, that is, 212° F. for over an hour. In some of the cases in which the sterilized milk is supposed to have been the cause of scurvy, it was undoubtedly the milk formula which was at fault and not the process of heating. In two patients under personal observation who developed scurvy while taking sterilized milk and a proprietary food the food was discontinued and the patient recovered, although heating the milk was continued. In 4 cases observed by Winkes no other treatment was employed than the substitution of sterilized milk for the previous diet, which in three instances had been proprietary foods. All the patients promptly recovered. The milk was heated to 212° F.

In an article on infantile scurvy Dr. E. Cautley, of the Belgrave Hospital for Children, says that in seven years' hospital practice he has brought up a very large number of infants on boiled milk ; that none of them have developed scurvy, and that the gain in weight has been satisfactory. He notes also that in London shop milks he found from 3 million to 30 million microbes in each teaspoonful.

In my own experience I have never known scurvy, rickets, or atrophy occur as the result of feeding with milk that had been boiled or sterilised by exposure to the temperature of boiling water. At the General Hospital the milk is sterilized in an Aymard's sterilizer, and the rapid improvement in nutrition that occurs in the wasted infants brought to us is most striking. In private practice and in my own family I advise for young infants the sterilization of milk in the bottles in a Hawkey's or Soxhlet's apparatus, and for older ones in an Aymard, the water being put in tepid and kept at the boiling point for about ten minutes.

All the cases of infantile scurvy that I have seen have been due to the sole use of proprietary dried foods. However perfect the food may appear to be from the point of view of chemical composition, there is no doubt that their prolonged use (for example, for six to eight months) does, in a certain number of cases, cause scurvy, although the child may for a time have gained weight and appeared thriving.

Sir Thomas Barlow, the discoverer of "infantile scurvy," or "scurvy rickets," discussed the question in his Bradshaw Lecture, and has recently

been good enough to communicate his views to me in a private letter. He says : "Undoubtedly the proprietary foods are the worst offenders ; condensed milk is responsible for a fair number of cases, and sterilised and humanised milk as supplied by the dairies is, if used long enough, very apt to produce scurvy. By this preparation I mean milk which has been deprived of half its quantity of casein and has been subsequently sterilized and in several cases stored for some weeks." He also adds : "I have had several cases of scurvy in children taking milk sterilized by Soxhlet's process, which takes forty to forty-five minutes. I have not seen scurvy in children brought up with milk just scalded."

Dr. Kingston Barton comes to similar conclusions, namely, that completely sterilized milk, that is, milk which will keep fresh in sealed bottles for several days, will produce scurvy, whereas milk raised to the boiling point and kept at that temperature for five to ten minutes will never do so, while it is almost quite safe from pathogenic organisms.

Now, with regard to these views and facts, I would venture to point out first that in the case of "humanized" or "modified" milk, we are not dealing merely with milk that has been heated, but with a fluid the chemical composition of which is markedly different from whole milk, and that in some cases it may well be the milk formula which is to blame. Condensed milk is notoriously often an imperfect nutriment. Secondly, I would remark that when so-called "sterilized" milk has been brought from a dairy laboratory or manufactured at home, there is a tendency to undue confidence in the virtues of sterilization, to keep it too long, and to give a supply of fresh milk at too long intervals. Milk sent down from a London "laboratory" is frequently given when a week old. But it is by no means true that milk which has been boiled, even for three-quarters of an hour, can be absolutely relied on as sterile. Repeated discontinuous heatings are necessary to kill all spores. The outbreak of diarrhoea a few years ago at St. Bartholomew's, which was traced by Dr. Andrewes to the bacillus enteritidis sporogenes existing in well-cooked rice puddings, is striking proof of the resisting power of spores.

It happens not very rarely that "sterilized" milk from the best London dairies is found when the bottle is opened to be obviously bad to smell and taste, and it is practically certain that minor fermentative changes may go on in milk which seems good enough to give to the child. Hence we may be for several months administering to the infant small doses of the chemical products of saprophytic or pathogenic germs.

In this connexion let me remind you of the extremely interesting paper by Mr. F. A. Jackson and Dr. Vaughan Harley on the etiology of scurvy. This disease has been generally held to be due to the absence in the diet of some constituent of fresh food, and especially of fresh vegetable food, by many supposed to be the salts of organic acids, such as citrates, malates, and lactates, and it is generally believed that the administration of vegetables or limejuice in addition to meat and preserved foods will prevent the outbreak of scurvy. That this is not the case is shown by the fact that scurvy was rife among the members of the Nares Polar expedition, although

limejuice was regularly taken. On the other hand, a shipwrecked party, of whom Dr. W. H. Neale was a member, lived for nine months on freshly-killed meat without any vegetables, and had no scurvy at all.

Dr. Nansen did the same for the same period, with the same result, and a party of Mr. Jackson's expedition spent three years in Franz Josef land without limejuice, vegetables, or scurvy, while their companions on the ship *Windward* living on tinned and salted meat with a regular allowance of limejuice, suffered severely from scurvy. The conclusion drawn from such facts as these by Professor Torup, of Christiania, and Messrs. Jackson and Harley is that scurvy is due, not to the absence of a hypothetical x in preserved food, but to poisoning by the ptomaines of tainted animal food. Jackson and Harley bring experimental support to this view by finding tainted meat produce scorbutic symptoms in monkeys, even when plenty of fresh vegetables were given as well.

The cases reported by Winkles, and mentioned above of infantile scurvy caused by proprietary foods, and cured merely by the substitution for them of sterilized milk strongly support this view of the pathology of the disease. I would submit, then, that the evil effects observed not rarely after the prolonged use of powdered substitutes for milk, and occasionally after the use of modified milk supposed to be thoroughly sterilized may be partly due to unsuitable chemical composition as to food elements, but more largely to actual insufficient sterilization, and subsequent keeping the food long enough to allow of decomposition processes to occur.

Flügge found that in milk that have been kept at 90° C. for some time various anaërobic organisms could be cultivated at a temperature of 30° C., the commonest being the bacillus butyricus, which made the milk toxic to guinea-pigs. He also obtained several kinds of spore-bearing aerobic bacilli. Repeated heatings to 100° C. at intervals are needful to destroy such bacilli, or a prolonged exposure to 120° C., which latter process greatly alters the colour and taste of the milk. Hence it is obvious that in milk supposed to be sterilized various toxic substances may be formed if it is kept long enough to allow of the growth of micro-organisms, and, if the taste and smell are not obviously altered, a fluid containing small doses of poisons may be administered for long periods to infants.

It should also be remembered that if fermentative changes have taken place in the milk before sterilization, the latter process, though it may destroy the living organisms, may not destroy the poisonous chemical substances they have produced. In these days, when the milk for the metropolitan dairies is drawn from as far off as Derbyshire, these are points worth remembering. It travels 120 miles to London to be mixed, modified and "sterilized," and then the same distance back again to the Midland baby. It is just conceivable that on its journeys changes may occur, for milk is not, like sherry, better for travel. It is a not uncommon experience occasionally to open a bottle of "humanized" milk from the best London dairies, which to vision, taste, and smell is bad; but for one in which microbic growth is thus obvious there may well be a dozen in which slight unperceived chemical changes have occurred.

Condensed milk is, I believe, usually sterile, though often of unsatisfactory composition as a nutriment ; but I feel some doubt as to its being an important cause of infantile scurvy, for this disease is admittedly much more common among the children of the richer classes than among those of the poor, who are the chief users of condensed milk. Rickets and malnutrition, on the other hand, are frequently traceable to its use.

ALLEGED LOSS OF NUTRITIVE VALUE.

Let us pass on to the statements as to the loss of nutritive value alleged to occur in milk as the result of boiling or exposure to the temperature of boiling water.

First let us consider the statement that we are thus deprived of "living food." If it is meant that living protoplasm, or animal or vegetable matter is absorbed into our system and incorporated with our living tissues without being previously killed and converted into a totally different chemical substance, I venture to say that this is an absolute fallacy. Such a process occurs in the fusion of the spermatozoon with the ovum, and in the conjugation of lower organisms, but is unknown in the process of nutrition of the higher animals. Putting aside the fact that the protoplasmic envelope of the fat globules of cow's milk is dead long before it reaches the consumer even when unboiled, there can be no doubt that the same substance in mothers' milk drawn from the breast must be acted on and dissolved by the gastric juice before absorption, just as the casein is precipitated by the rennin ferment and subsequently peptonized. Neither is raw meat juice in any sense a "living" food. Potatoes have been described as such, even when boiled and mashed. Although an excellent remedy for scurvy, they do not act by virtue of being living. If scurvy were due to the want of living, or even of raw food, most of us would have scurvy ; for there are thousands of persons who for years never consume uncooked food. It should be remembered that the use of raw milk is almost peculiar to Great Britain.

Is there any scientific evidence that boiled is less digestible and less absorbable than raw milk ? It is asserted by the advocates of raw milk with the utmost assurance that this is the case ; but for facts to prove their assertion we look in vain, while evidence to the contrary is not lacking.

Most people know that the clot of boiled milk (at least, outside the body) is less dense than that of raw milk, and may therefore be expected to be more rapidly acted on by pepsin.

Further facts as to the effect of boiling (that is, heating to 110° C) on milk are given by Dr. Hutchison in his valuable book on *Food and Dietetics*. Thus he points out that there is not, as alleged by some, a material loss of nutriment in the scum, which consists mainly of phosphate of lime with a minute quantity of lactalbumen and casein. Very prolonged boiling gives a brownish tint to the milk, probably owing to caramelization of the sugar ; but it is not shown how far this renders it less digestible ; nor is such prolonged boiling necessary.

Then it is said that boiling destroys the beautifully fine emulsion in which

the fat exists in milk, causing the droplets to run together. This to some extent is true, and, if sterilized milk be kept for a week or a fortnight, it is very difficult to again get a fine emulsion by shaking the milk; but this is hardly perceptible in milk consumed within a few hours of boiling. This is another reason, besides that before mentioned, for not keeping milk long.

As regards the rate at which raw and boiled milk are digested in the stomach, the results of experimenters vary somewhat, some finding one and some the other more rapidly digested; but the general conclusion is that there is no great difference.

As regards the absorbability and nutritive capacity of boiled and raw milk, here again experiments show no inferiority in the former. Chamouin of Paris found that kittens fed on boiled milk were twice as fat and healthy as those fed on raw milk. Bendix found that both infants and calves assimilated both nitrogen and fat quite as well from milk sterilized for over an hour as from milk just boiled; while between raw and boiled milk in animals and man the results of other experiments gave no constant difference. Hutchison concludes that "just as boiling does not appreciably diminish the digestibility of milk in the stomach, so it does not to any important extent interfere with its absorption in the intestine," and he gives as his clinical experience at the Hospital for Sick Children that "amongst several hundreds of infants thus fed" (with boiled milk) "I have but rarely had any difficulty in obtaining the normal increase in weight. This is not a mere general impression, for I make a point of having these children weighed every week, and a careful record kept of the increase in weight and the exact method of feeding." One wishes that the writers on the other side would give something beyond "general impressions." Dr. Hutchison's experience thus falls into line with that already quoted of Holt, Variot, Cautley, and the towns of Fécamp and St. Helens.

CONCLUSIONS.

To sum up: we may say that there is no solid evidence to show that milk raised to its boiling point ($110^{\circ}\text{C.} = 233^{\circ}\text{F.}$), or to the temperature of boiling water for ten minutes or a quarter of an hour, suffers any diminution of its nutrient qualities. Neither is it probable that, if consumed within twenty-four hours of the heating, it will cause infantile scurvy. The same is true of pasteurised milk heated to 80° or 85°C. None of these methods render the milk absolutely sterile, but they do kill most pathogenic microbes (for example, those of tuberculosis, cholera, diphtheria, and typhoid), and if the milk be kept cool and drunk within twelve hours of the heating, few or no spores will have developed into bacilli. Pasteurisation is probably less reliable than heating to 212°F. for ten minutes, and is also more difficult to carry out, as it is easy with simple domestic apparatus such as Aymard's, or other double saucepans, or Soxhlet's, or Hawksley's bottle-holding tins to keep the milk in a bath of boiling water for ten minutes.

In times of epidemic summer diarrhoea the heating should be prolonged for at least half an hour, and the milk drunk within a few hours, or subject-

ed again to the process, as the spores of the bacillus sporogenes enteritidis are very resistant. Under all circumstances milk, whether raw or "sterilized" should be drunk as fresh as possible, and then the liability to gastro-enteritis and nutritional diseases will be diminished ; but it is my emphatic opinion that infants who live wholly or mainly on milk as at present supplied to us should never be exposed to the dangers lurking in the raw fluid.

Lastly, let me say that nothing in this paper is intended to detract first- from the paramount importance of children being suckled by their mothers for the first seven or eight months of their life ; and, secondly, from the equally vital matter of securing a pure milk supply from healthy cows, hygienic stables and dairies, and clean milk cans. Educational and legislative measures to secure such a pure milk supply should have the heartiest support of every medical man.—*Brit. Med. Journ.*, Feb. 22, 1902.

Acknowledgments.

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Obituary.

DR. RICHARD HUGHES.

A great light has disappeared from the firmament of Homœopathy. Just after all the sheets of this number were printed off we received the sad intelligence by a letter kindly written to us by our distinguished colleague, Dr. John W. Hayward, that the most scholarly and the most philosophical physician of our school is no more. Dr. Richard Hughes has gone to his eternal rest. He died, we learn, in Dublin, on the third of this month, where he had gone on probably a missionary tour in the interests of his church—the Catholic Apostolic, of which he was a high official and a preacher. In this capacity he was going about the country on a resuscitating mission. He had visited the Lancashire district at the beginning of the year, and early in February he visited Liverpool and Birkenhead, and spent most of a day with Dr. Hayward. It was on the 24th February last that we received from Dr. Hughes a communication informing us of his change of address from Brighton, to Albury, Guildford, Surrey, where he was residing, having retired from active practice. He was engaged, as we learn from an advertisement of Messrs Leath and Ross, in bringing out a new edition of his *Manual of Therapeutics*, long out of print, re-written throughout and brought down to the present time. And we were just about to write to him to congratulate him on this fact, when the stunning news of his death arrived. We believe this news will be received by members of the new school throughout, as it has been by us, in the light of personal bereavement. Is not his name a household word wherever homœopathy is known and practised?

His services to our cause have been simply invaluable. Dr. Dudgeon excepted, he has contributed the largest towards the advancement of that cause. His classical work on Pharmacodynamics, more than any other works in our literature, Hahnemann's excepted, has brought in the largest number of intelligent and educated converts to our ranks. The *Cyclopædia of Drug Pathogenesis* and the *Repertory* thereto, and the annotations to the *Materia Medica Pura* and the *Chronic Diseases* of our Master, bear testimony to his prodigious capacity for work, to his extensive learning and scholarship, to his thoroughly honest and conscientious scruples as a critic, and to his highly laudable anxiety to maintain the purity of our armamentaria and the scientific dignity of our school. His death has been an irreparable loss to our school. It will be long before another will be able to fill his place.

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THE
CALCUTTA JOURNAL
OF
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THE LATE DR. RICHARD HUGHES.

WE have great pleasure in giving the following extracts from the proceedings of the seventh meeting of the Session 1901-02 of the British Homœopathic Society, held at the London Homœopathic Hospital on Thursday, April 10, 1902, which seems to have been specially convened to give expression to its sorrow at the irreparable loss the Society, Homœopathy, and Medicine in 'general have sustained in the death of our illustrious colleague, Dr. Richard Hughes. The Society has but performed a duty in carrying unanimously not only a vote of sympathy and condolence with the widow and family of Dr. Hughes, but also a resolution for forming a Hughes Memorial Fund, in regard to which a letter has been written by Dr. Madden to the *Monthly Homœopathic Review*, which also we publish below.

Attention was drawn by the chairman of the meeting to the great loss the society had sustained in the death of Dr. Richard Hughes, whose remains had that afternoon been laid to rest. Dr. Dudgeon thereupon moved a vote of sympathy and condolence with the widow and family of Dr. Hughes. Dr. Dudgeon reminded the society it was Hahnemann's birthday, and while many homœopaths throughout the world had been celebrating that event, he and other colleagues had been burying Hahnemann's greatest disciple. Dr. Hughes was beloved by all. He was incapable of making enemies. His works

were known by all : they are handbooks, used all over the world, having been translated into many languages. No further eulogium was needed. Each member present felt Dr. Hughes' loss as a personal bereavement to himself.

Dr. Clarke seconded the motion. He said that until Dr. Hughes' works were available, the study of homœopathy was only possible through very severe application. It may be said for the last thirty-five years Dr. Hughes had dominated the homœopathic world, and now he is gone the loss cannot be estimated and seems irreparable.

A letter was then read from Dr. Pope, who though unable to be present desired to take some part in an expression of regard for a highly esteemed and widely loved colleague. Dr. Pope described Dr. Hughes as essentially a Christian gentleman, a man of wide and varied learning, and always a constant and industrious student. The most valuable part of Dr. Hughes' work concerned the homœopathic *Materia Medica*, in which to the end of his life he was earnest in sustaining the purity and accuracy of the public presentation of it. Great as is our loss, ~~that~~ which Dr. Hughes' family are called upon to sustain is far greater.

The chairman added that his acquaintance with Dr. Hughes dated from the earliest time he knew anything of homœopathy. As a student he remembered Dr. Ringer quoting Dr. Hughes as an authority in *Materia Medica*. Dr. Dyce Brown had intimated his great regret that he was unable to be present at the meeting.

The motion was carried unanimously.

Dr. Madden then spoke as the oldest personal friend of Dr. Hughes, and moved that the public expression of the loss at his death should not stop at words, but should take a more substantial and permanent form. Many reasons could be adduced for this proposal, and there could be no doubt that not only members of the society, but Dr. Hughes' former patients and friends, and homœopaths in this and other countries, who had benefited by his work, would like to have an opportunity of subscribing. Dr. Madden proposed that a committee should be appointed from the society, to act with others in carrying out this suggestion.

Dr. Goldbrough seconded the resolution. He was glad Dr. Madden's proposal was of a wide and comprehensive character. It was fitting a memorial should issue from the society, the society representing the country of Dr. Hughes' birth, and the associations in which he worked, and also that it should come from that very spot where his colleagues were accustomed to meet him, and from which he would be missed that night.

Dr. Searson supported the resolution. He spoke as Dr. Hughes' successor in practice at Brighton, and believed many old patients would like the opportunity of joining in the memorial. The resolution was carried unanimously.

Dr. Madden intimated that Drs. Dyce Brown, Bennett, Gilbert, and Hawkes (of Liverpool) who were present at the funeral, but unable to attend the meeting, had signified their wish that the resolution just carried should be proposed, and that they would give it practical support.

The chairman then moved that the meeting should be adjourned. His name was down to read a paper, but that could be held over till another time. Mr. Knox Shaw seconded the adjournment. He thought it only a fitting mark of respect for our late distinguished member. He instanced the great help Dr. Hughes had been to the society as its secretary for many years, and latterly when he (Mr. Shaw) had undertaken the work of reorganization in many details, he had found Dr. Hughes most kind and encouraging. The work of Dr. Hughes in connection with the society had followed him to Dublin, the place of his death. He was engaged only a day or two before revising the proof sheets of the *Journal* for April. Mr. Shaw thought the least the society could do was to adjourn out of respect to the memory of so distinguished a man.

The meeting then adjourned.

Dr. Madden's Letter on the Hughes Memorial Fund.

Gentlemen,—At the last meeting of the British Homœopathic Society on 10th April, after the announcement of the death of our beloved veteran, Dr. Richard Hughes, and the votes of regret and condolence had been passed, I proposed, and all present were unanimous in approving, that a "Richard Hughes Memorial Fund" should be initiated. It was decided that the council of the society should appoint one or two members of the society to act on a small committee in conjunction with others who would represent his private friends and patients, who, we already know, are moving in the same direction.

As, however, the council has not yet met, and as it is highly desirable that no time should be lost in bringing this matter practically before his friends and colleagues, I am venturing to write this preliminary letter to you, in the hope that you will not only be able to insert it in your next issue, but will also sympathetically refer to it in your editorial columns.

It is confidently hoped that besides the personal friends and colleagues of Dr. Hughes in this country, some at all events of his Ame-

rican colleagues and fellow-workers may wish to be associated with us in this movement.

Briefly then, the object of this memorial will be to worthily express our gratitude for the invaluable life-long work of Dr. Hughes for the furtherance and development of homœopathy, a work which, while it has done more than that of any other one man (in this country at least), to attain this end, and has been of untold value to each one of us in our daily work, has undoubtedly not been of a very remunerative kind in itself, while it has prevented his time and energies being devoted to work which would have been to his more personal advantage.

We feel then that it will be only right and fitting, if for this reason only, but also because we all loved him as a man as well as revered him as a teacher, that we should do all we now can to add to the comforts, and administer to the needs, of those he has left behind, and who were dependent upon him during his life, and it is to this end that the greater part, if not the whole, of the proposed fund will be devoted.

I will only now add that to do this in at all an adequate manner will need a generous and general response to this appeal.

I am, Yours faithfully,

EDWD. M. MADDEN.

We hope this appeal will be generously responded to in India. We believe there is not a single homœopathic practitioner here, professional or lay, who is not largely indebted to Dr. Hughes for sound guidance, and this is just the time to practically express our gratitude for that indebtedness. This is the more necessary as it appears from Dr. Madden's letter that notwithstanding our late colleague's world-wide reputation, his works, though used wherever homœopathy is practised, were not of a very remunerative kind, and we believe a man of his generous and benevolent disposition could not make as much money out of his practice as any one less kindly inclined would have done, and that consequently he had not enough to leave for the comforts and needs of those he has left behind. We shall be glad to receive any money that may be subscribed in aid of the Hughes Memorial Fund and forward it to Dr. Madden or any other gentleman who may be appointed to receive it in England. A due Receipt will be granted at once the money is received, and the names of the subscribers will be published in this Journal.

THERAPEUTICS AS A SCIENCE.

X.

(Continued from Vol. xix, No. 9, p. 368.)

LIMITATIONS OF THE SCIENCE.

FOR the successful prosecution of a science and, what is of equal importance, for its successful application in practice it is absolutely necessary that we should be acquainted with its limits. For otherwise we may be led to have recourse to methods of investigation which may not be suitable for the discovery of its truths, and we may be tempted to apply it to yield results which it is not in its competency to do.

It is true that sciences apparently the most distinct and divergent are intimately related and interdependent, for they are all branches of knowledge of the different aspects of the same great Unit, Nature, the Universe, or the Cosmos as the philosophers of Greece called it. But notwithstanding the unity that pervades Nature there is such endless variety of its aspects, that with our limited faculties we cannot take a comprehensive view of them all unless we study first each of them by itself, and in such study, it will be seen, we shall have to pursue a different method of research for each.

Thus when we have to ascertain the laws which govern masses of matter we have to do it by methods different from those which enable us to ascertain the laws which govern the ultimate molecules and atoms of which the same masses are composed. Mechanics and Chemistry thus become separate sciences, and have their limits both as regards methods of inquiry, and their applications to our purposes. We cannot and should not expect mechanics to solve the problems of chemistry, nor chemistry to solve those of mechanics. Chemistry cannot help us in constructing a bridge or a steam engine, nor mechanics in making dyes or glass or various other compounds which minister to our necessities or comforts. The methods of investigation in Astronomy are different from those in Biology, and the scope or limits of these sciences are quite distinct and peculiar, and should be so maintained for their profitable study and application. We could multiply examples from the other sciences, such as Electricity and Magnetism, Geology and Mineralogy, Botany and Zoology, which, though very closely related, require, in addition to similar,

different methods of treatment peculiar to each, for their successful cultivation. But what we have adduced are sufficient to illustrate the principle we are contending for, and which is particularly applicable to Therapeutics.

Therapeutics we have defined to be the Science of the treatment of diseases by drugs for the purpose of arresting their progress in the first instance and ultimately curing them or bringing on amelioration from their sufferings. We have thus excluded hygiene from its scope. In order to find out the limits of the Science we must first know what diseases are and how they originate, and what drugs are and how they influence diseases. Diseases are abnormal conditions of living organisms, and drugs are generally substances other than food.

As abnormal conditions of living organisms, diseases are variable in extent and intensity. They vary from the slightest deviation from health scarcely noticeable or noticeable only by the minutest scrutiny, to the most palpable disorganizations. Though there can be no deviation however slight from healthy function unless there is corresponding change in the structure of the tissue or the organ to which the function appertains, yet the change in structure may be so slight as to be transitory only, the tissue or the organ resuming its normal condition by virtue of its own vital activity without any extraneous aid. Such diseases used to be looked upon as functional only, as distinguished from those which are associated with permanent change of structure, and were therefore called structural or organic diseases. The distinction has now been very properly abandoned; or if retained, it is with the reservation that in the so-called functional diseases the change of structure is slight, transitory, and easily recovered from.

Diseases, in which change of structure is so slight as to be recovered from by the simple removal of the cause which gave rise to the irritation or disturbance, are better left alone, that is, to the inherent restorative or recuperative powers of the organism itself. But when the irritating or disturbing cause cannot be removed then the continuance of the irritation or disturbance will lead to permanent alteration of structure and function, and here the physician must step forward with his drugs to help the deranged organism in shaking off the irritation and thus preserving its

integrity. It will be seen that time is an essential element for the success of the physician's interference. For, if the disorganizing process has gone on too far, if the alteration of structure has become complete, then it would be vain to expect restoration to the normal condition of the tissues or organs so disorganised. Here we see the limit not only of drug therapeutics but of all therapeutics.

The most important point to determine is the limit of the disorganizing process beyond which its arrest and much more its cure is impossible. However advanced a disease may be the patient never loses heart of recovery, and ought the physician to do so? It is certainly the physician's duty to encourage and not to extinguish hope. For it has often happened that cases pronounced the most hopeless have recovered. The physician ought to be able to analyse these cases, and if he does so with sufficient care and scrutiny he will find that the hopelessness of the cases were apparent only due to faulty diagnosis from a wrong and mistaken interpretation of the signs and symptoms presented by the patients.

• But if it is the duty of the physician to encourage hope, it is equally his duty not to delude with false hopes. Whilst he must bear in mind that all morbid processes up to a certain extent are reversible, he should keep in view the limit beyond which they are not so, in order that he may not give wrong prognoses than which there is nothing more damaging to the character and reputation of a practitioner of the healing art.

To make this clear let us take a few concrete examples. After a certain stage inflammation often leads to suppuration which means disintegration of the inflamed tissue. When suppuration has actually taken place nothing, save a miracle, can bring back to life or its original condition the tissue that has become disintegrated or dead. All that can be done is to arrest the suppurative process and prevent the disintegration or death of the tissues that are living. If the extent of suppuration that has already taken place is not very large and if there is sufficiency of living tissue around the suppurating focus or foci then the diminished vital activity of the living but diseased tissues may be so restored and stimulated as to lead to the absorption of the disintegrated tissues, without letting them out by surgical

interference. Such absorption has taken place in numbers of instances under homœopathic treatment to the amazement and dismay of the old school practitioner who had advised the recourse to the surgeon's knife as the only means of saving life, but which the patients had resisted from a not unnatural and justifiable dread. And apparently the diseased parts or organs have recovered their original state. Such recoveries are ordinarily looked upon as cures, though in reality they are not so. In our opinion the word cure should be limited to cases of recovery where the absolute integrity of the diseased parts have been secured and maintained. Nevertheless the recoveries we have spoken of, as having been brought about by drugs without surgical interference, are really a great achievement for therapeutics.

But while such has sometimes been the happy result, it has also been the fact though much less frequently, that even very slight suppurations could not be controlled, and that attempts to do so by drugs have been followed by the most lamentable failures. We have seen that in this way a simple boil on the upper part of the back had been allowed to spread over its whole extent by the attending practitioner from his over confidence in the powers of his drugs, or rather in his own powers. The gradual but steady progress of the suppuration should have convinced him that the patient's constitution was so rotten that drugs were unable to exert their due influence, and that it required to be helped not by drugs but by the more prompt remedy—the surgeon's knife. Such over zeal, such mistaken confidence in the powers of drugs, has often brought unmerited reproach upon homœopathy.

Other instances of disorganization of tissue may be seen in the union of two opposed serous surfaces as of the pleura by organized lymph, by which the structure of the serous membrane is destroyed; in the ankylosis of two opposed articular surfaces by either ossific or fibrous union, in which the structure of the articular cartilages are destroyed; in the replacement of a tissue by a different one, as cartilage or fibrous tissue by bone, or a true glandular structure by connective tissue, as in the case of cirrhosis of the liver and of other organs; &c. In such disorganizations, therapeutics must necessarily be impotent so far as the restoration of the disorganized structures to their normal condition

is concerned. Patients with such disorganizations are not to be abandoned, but their treatment must be undertaken with a full knowledge of their condition, so that neither they nor their physician may be misled by delusive hopes.

We have spoken of alteration of structure and function in disease and as if produced by disease. But we know that alterations of structure and function are also and often produced by external agencies, which are not diseases, such as heat and cold and electricity, mechanical blows, corrosive substances, &c. We have instances of this in scalds and burns, in frost-bites, in the effects of lightning, in cuts and other wounds, in dislocations and fractures, in corrosions of the skin and mucous membranes from the chemical action of acids and alkalis. Here disorganizations of structure are so sudden and complete that therapeutics have only place in remedying the diseases which result from them, and can possibly have no influence in remedying the disorganizations that have actually taken place. They must be dealt with by mechanical and chemical means. In the case of a dislocation, for instance, it would be sheer madness to attempt to reduce it by the administration of drugs. That must be done by the proper application of mechanical force, and when this is effected then comes the province of therapeutics to prevent or subdue the inflammation that is likely to result from the injury. Similarly with fractures. The broken ends of the bone must be brought into apposition by proper manipulations, before therapeutics can step forward to facilitate their union if necessary and alleviate pains and moderate the resulting inflammation.

The limits of Therapeutics, especially of homœopathic therapeutics, are also seen in cases of poisonings, which require in the very beginning the removal of the poison by the stomach pump or other means and the administration of chemical antidotes. Physiological antidotes in the shape of drugs can only come in after the stomach pump and chemical antidotes have done what they can. It would be the height of folly to dispense with these latter in favor of the former. It would equally be the height of folly to neglect the former in proper time.

(To be continued.)

PROPHYLAXIS AND THERAPEUTICS OF PLAGUE.

So far back as November 1897, up to which time plague was raging in and confined to Bombay, we published in this Journal therapeutic hints for the treatment of the disease based upon the law of similars with a view to induce our colleagues of both schools to make trial of drugs which have had yet no trial in the treatment of this most formidable of all diseases, especially as the orthodox treatment is acknowledged to have most signally failed. We offered the suggestions on the strength of the conviction that homœopathy, being truly a system of scientific therapeutics based upon a law of nature, does give its votaries as every other science does its, a power of prevision which succeeds and proves beneficial. Our readers need not be told what a remarkable verification of this we have had in the case of cholera. The founder of Homœopathy suggested remedies for cholera which have been found curative in the disease, from reports of its symptoms alone before he had himself seen a single case.

The article containing the suggestions was published in pamphlet form for the greater diffusion of the knowledge of the homœopathic remedies in the treatment of plague, and though a second edition was called for and has been nearly exhausted, we still find the orthodox treatment pursued with the same uniform failure, the mortality being as great as it ever was before. We find that only one member of the old school had the conscience to try homœopathic remedies in the cases that came under his care and the courage to avow that they were a great deal more successful than the routine remedies of his school. But we regret to see that he has not thought fit to urge the adoption of the new treatment upon the authorities of whom he seems to be so mortally afraid that in publishing his cases he has scrupulously avoided mentioning even the name of homœopathy in connection with the remedies he found so beneficial. He simply alludes to it as "a principle which is now daily becoming wider spread with consequent benefit to humanity," the principle being "that a remedy for any disease is one which acts on the same tissues which are affected by the disease." He goes even so far as to say: "Trying to differentiate drug action *ab usu in morbis* has been tried for centuries, and has failed. Such action must be elicited by experiments on the healthy human body."

What is this but homœopathy pure and simple? 'What a pity that the exigencies of service should have compelled such a man to keep his light under a bushel.

The plague has been in Calcutta and nearly throughout Bengal fully over five years, and still we hear the same doleful tale of as many cases and almost as many deaths, which shows that whatever treatment has been adopted in the cases must have been, to quote Major Deane's words, "beneficially *nil*." Strangely enough though there are a good number of professed homœopathic practitioners, not less than thirty, in Calcutta and the suburbs, we have not heard much of the homœopathic treatment of the disease and of its results, our colleagues are so averse to recording and publishing their cases, a matter which we lamented over so much at the last Hahnemann anniversary.

Having been laid low by disease since the very year when the plague began its invasion of our country, we could not have much opportunity of carrying out our own suggestions. But from the chance opportunities that came in our way we are convinced of the remarkable efficacy of one remedy, both as a prophylactic and as a curative agent, which we deem it our duty to bring to the notice of our professional brethren as well as of the general public who are so immediately and vitally concerned. The drug we allude to is Ignatia. In our Hints published in the *Calcutta Journal of Medicine*, for Nov. 1897, what we said of this drug was derived from what we had read of it in Honigberger's *Thirty-five Years in the East*, in which, referring to his treatment of the plague that was raging in Constantinople in 1831, he says: "But, before I proceed to prove the efficacy of the minute doses of homœopathic medicines, I must speak first of a special remedy, which proved very efficacious, employed as a prophylactic or curative; and I dare to say, with respect to the plague, it might be considered as a specific. During my stay at Constantinople, I frequently had an opportunity of making the observation that many individuals, especially Americans, wore a string, to which was attached a bean, called *Strychnos Faba St. Ignatii*, as a preservative against the plague. Having been informed that the bean was acknowledged to be an effective one, I administered it in minute doses, as a medicine, and that with the best success."

Two years later, when on his way to Lahore, the doctor himself caught the plague at Palee and cured himself with "the small pills of the above-mentioned *Strychnos Faba St. Ignatii*." After the second dose he began to perspire to such a degree that his mattress was wetted through. "In consequence of this perspiration," he relates, "I got rid of the fever and anxiety, and entertained the hope of being restored to health, although the pains in the groins still continued. The swelling of the glands remained for three weeks, as I did not employ any local remedy." In commenting on this we said: "Honigberger's own case might have been a mild case of plague, but that it was a genuine case of the disease must be evident from the circumstances under which it occurred and from the symptoms given, and there is no doubt that *Ignatia* did succeed in cutting short the disease." And at this time we could only say—"The question whether *Ignatia* will prove both a prophylactic and a curative remedial agent, or either, in the present epidemic, can only be answered by clinical verification." We pointed to the following symptoms of the drug derived from provings and poisonings, which would justify its use in plague by the homœopathic practitioner:

"Goes about perplexed, dazed, stupefied; a kind of apathy in the whole body, indifference to every thing; dazedness, dullness and confusion of the head; intoxication. Throbbing headache, especially at every beat of the heart and arteries; retching, nausea, and ineffectual efforts to vomit. *Ignatia* has not been observed to produce inflammation and swelling of glands in the inguinal and femoral regions, but it has produced shooting pains in those regions. It has produced achings and sensations of swelling and actual swelling of the glands of the neck, chiefly of the salivary glands. It has produced fever with chills and shiverings, with the peculiarity of there being thirst during the chilly stage."

"These are symptoms," we said, "which correspond to those of the first stage of plague, and therefore we are of opinion that *Ignatia* may be used both as a prophylactic, and as a curative remedy in that stage. At least it deserves a trial."

The trial has been made in a sufficient number of cases to warrant us in strongly recommending this drug both as a prophylactic and as a curative agent of remarkable efficacy in this

disease which has hitherto defied all treatment except the homœopathic. No one who has worn Ignatia round their arm or loins has got the disease. In one house two members who had not worn ignatia got the disease, one of whom having had no treatment died, and the other was saved by the internal administration of the drug. Even in advanced cases it has saved life. Of course we do not say that it will cure all cases however far gone, but we have no doubt that it exerts a remarkably modifying and controlling influence at all stages of the disease, and therefore deserves a preliminary trial before all others, except in cases where the hypodermic injections of the serpent venoms may be necessary to prevent imminent heart failure, as we had recommended in our Hints, and as has been found beneficial by Major Deane. After *Ignatia* other drugs will act better.

THE DOSE QUESTION—A CRITICISM.

BY DR. HEM CHANDRA ROY CHAUDHURI, L.M.S.

At the last Hahnemann Anniversary Meeting, Dr. Younan took up the task of replying to criticisms that have from time to time appeared in the *Calcutta Journal of Medicine* on the Dose Question. He, as a Hahnemannian, or, "mad after Hahnemann," as he styled himself, saw "a method in the madness." But what are we to understand by the term Hahnemannian? All the principles expounded and laid down by Hahnemann cannot now be accepted as correct, for some of them cannot stand the test of modern advancements in science. From this consideration there are two classes of homœopathic practitioners. The one accepts, as does Dr. Younan, Hahnemann's *Organon* as the Bible of Homœopathy, and the other considers it only as an exposition of Hahnemann's principles, which require considerable modification. In fact the one class proclaims a doctrine of infallibility which the other is reluctant to accept. The first class may be called Hahnemannians, and the second neo-Hahnemannians.

Dr. Younan said:—"It would appear that practitioners of Homœopathy find it very difficult to follow Hahnemann into the infinitesimal attenuation of homœopathic drugs, either from prejudice or from preconceived notions or from the fancied necessity of following the teaching and practice of Teacher A or Teacher B."

It seems that Dr. Younan has used the term "infinitesimal attenuation" without making it free from ambiguity. Infinitesimal attenuation, as generally understood, may mean an attenuation from the 1st to the higher potencies, millionth, billionth, or trillionth. From this consideration again, there are two classes of practitioners. The one generally uses attenuations from the 1st to the 30th and are, properly speaking, true Hahnemannians. The other generally administers attenuations from the 30th to the millionths and billionths and may be called ultra-Hahnemannians. It should be known that among the ultra-Hahnemannians there are neo-Hahnemannians also. Thus we have three classes of homœopathic practitioners: 1. Hahnemannians (low dilutionists), 2. Neo-Hahnemannians (low and high dilutionists), 3. Ultra-Hahnemannians (high dilutionists).

Dr. Younan further says: "Such men forget, and so do their teachers, that the Founder of a system or school has a prior claim to be heard, and his teaching has first to be proved false, either wholly or in part, before such teachers or exponents have any right to modify or correct or even expunge the whole or a part of his doctrine."

It is astonishing that Dr. Younan should still think that some of Hahnemann's theories have not been considerably modified. Hahnemann's theory of psora cannot now be said to have retained its old position. His statement of the provings of the different salts of Ferrum as well as of the metal itself, does not throw the light of pathogenesis of a single remedy. If the *Organon* be freely criticized on the principles of modern physiology, pathology, and bacteriology, many sections would require amendment which is not likely to be palatable to the orthodox Hahnemannians.

Dr. Younan has cited sections 275, 279, and 285 of the fifth edition of the *Organon*. None of these sections countenance the ultra-Hahnemannian doses, namely, the thousandths, the millionths or the billionths. Section 279, which says, "the homœopathically selected remedy can never be prepared so small that it shall not be stronger than the natural disease and shall not be able to overpower, extinguish and cure it, at least in part, etc.," requires modification. It would be an absolute dogmatic assertion to say that in an ordinary case of dysentery any potency of the selected remedy will cure the disease. It is often seen

that Nux v. 6 having failed to cure an afternoon fever, Nux v.30 has succeeded in its stead. But there are also cases where China 30 having failed to cure infantile diarrhoea, China 6 has proved useful. If all our experiences are to be thrown away, without any reason or rhyme, on the dogmatic assertion of any person, then hero-worship in its worst form is substituted for freedom of thought in science. It will be to go back to the days of darkness in preference to those of light. For myself, I content to follow Goethe, an illustrious countryman of Hahnemann, in his longing for "Light, more Light."

The only section which comes to the aid of the ultra-Hahnemannians, is the note to section 285. I cannot refrain from pointing out that the constitution of an adult which is affected by one globule of a high potency such as the two hundredth is very rare. The treatment by olfaction has now disappeared because it generally courts failure.

The unscientific and un-Hahnemannic method of preparing attenuations higher than the 30th, has been often noticed by Dr. Mahendra Lal Sircar. It would, indeed, be a violation of truth to say that the dilutions thus prepared are really what they are named and labelled.

If Hahnemann had been living still he himself would have modified his teaching to a considerable extent, as he did in the course of his long life. Knowing the progressive character of his mind, I think we do not do him full justice when we look upon his *Organon* as a work which is infallible, and therefore not susceptible of improvement, and call it rather irreverently, I should think, the Bible of Homœopathy.

A PERSONAL EXPERIENCE OF TEA-DRINKING.

(Communicated.)

Before 1881, I had heard of tea but I do not remember to have ever tasted it. In the December of that year I had to go to England and drank my first cup of tea on board the steamer. It seemed to me so pleasant, refreshing and delicious that during my voyage I became a confirmed tea-drinker. I remained in England for nearly three years and the habit gradually grew upon me. I noticed no inconvenience whatsoever arising out of this newly acquired habit.

I may as well mention here that before I left for England, dyspepsia and toothache used to trouble me a great deal. These dyspeptic troubles continued during my voyage though in a less aggravated form. Complete change of climate, of mode of life and surroundings worked like a miracle. I shook off my dyspepsia which had troubled me so long in no time. When I returned to India in 1884, I was quite a new man, grown younger as it were by several years.

But my health soon began to fail and my old disorders returned with redoubled force. Some of the most eminent physicians of the town were consulted and I ungrudgingly submitted to all the nostrums prescribed by them, but they availed me nothing at all.

I gave up doctors with their nostrums in sheer despair and adopted a *laissez faire* policy. One day while tossing in my bed during a fit of insomnia from which I had begun to suffer, a thought flashed upon me. Were not my troubles all due to my habit of excessive tea-drinking. I determined to act upon this happy thought at once, but not until after a hard struggle with my temptation for a beverage to which I had become strongly addicted.

From next morning I gave up tea-drinking to the surprise of some of my friends and disappointment of a few others. That very day I had a good night's rest, a luxury I had not enjoyed for months. This relief made my determination stronger and I continued the experiment for another month notwithstanding the earnest solicitations of my well meaning though mistaken friends. The experiment succeeded exceedingly well, the insomnia vanished, appetite returned, and tooth-ache became a thing of the past. It is now nearly seventeen years that I have given up tea-drinking, and during this time I have never suffered from dyspepsia and its attendant evils. I must admit that I am so fond of this beverage that even now I occasionally indulge in a cup or two in the morning with impunity. An evening cup, however, invariably brings on insomnia.

It will be seen from the facts given above that my dyspeptic troubles accompanied me during my voyage, but were less, that they disappeared altogether during my residence in England, though I was taking tea all along, that they returned after my return to my own country and became intolerable defying medical treatment, and ceased only when I had discontinued the habit. If I am permitted to draw any inference from these facts I will say that tea is not a necessity of life, and that it seems to be ill-suited to hot climates, and to the Indian's mode of living. I would leave your readers to draw what inferences they like as to what the consequences would be to our community in general from the habit of tea-drinking that is rapidly growing. Whatever they may be to the rich and those who can afford the luxury, they would be anything but desirable to the poor whose poverty and misery would be aggravated if once the habit becomes confirmed.

EDITOR'S NOTES.

Quacks in Germany.

Statistics recently published shew that there are in Berlin 476 quacks, male and female, the number of legally-qualified practitioners being about 2,000. Of the male "healers" 20 per cent. have been seryants or workmen, 40 per cent. artisans, and 16 per cent. tradesmen. Among 125 "lady healers" only one has had more than the most elementary education, while 58 per cent. are of the servant class, 25 per cent. shop-girls, 10 per cent. factory hands, and 4 per cent. sick nurses. The number of illegal practitioners in Saxony in 1900 was 1578. This does not include a number of quacks who ply their trade without the knowledge of the police authorities. The number of legally-qualified practitioners of medicine in Saxony in the same year was 2,029.—*Brit. Med. Journ.*, March 22, 1902.

The Dangers of Acetylene.

An important report dealing with the apparatus and material used in the generation of acetylene has recently been printed in a Parliamentary paper. The members of the committee, seven in number, were all experts—some in regard to explosives, others to petroleum, and others to coal gas. Of the generators examined not one appeared to be unsatisfactory under the conditions of the test, but, as is pointed out, this does not necessarily mean that all the types of generators on the market were safe, for some appliances were withheld because it was felt that they would not pass the test, and in some instances serious defects in the design were made good before the generator was submitted to the test. The committee states that attention should be given to the following five points in regard to the construction of the generator: (1) it should be simple in action and design; (2) it should be strongly constructed; (3) it should give a high efficiency as indicated by the yield of gas per unit of carbide; (4) the pressure of gas in the generator should always be low; and (5) the residue of lime in the generator should be easily removeable. There is obviously no reference here to the purity of the carbide. This, it seems to us, is an important point, for the ordinary impurities of carbide are compounds which when moistened with water yield two poisonous gases—namely, phosphoretted hydrogen and sulphuretted hydrogen. Moreover, it is possible that the presence of impurities in carbide might render the gases generated from it spontaneously inflammable.—*Lancet*, March 15, 1902.

The End of a Sensational Story.

Some weeks ago there appeared in the *Daily Telegraph* and other newspapers a sensational report that a medical practitioner of Brooklyn had offered himself as a subject for vivisection. It was impossible to believe that such an offer could have been made seriously, still less that it could, as was stated with all possible gravity, have for a moment been entertained by any responsible members of the medical profession. The affair was evidently only a silly hoax or a foolish piece of bravado. For this reason we did not think it worth while to make any reference to the matter. The whole thing now turns out to be a myth. The practitioner who was said to have offered to sacrifice himself on the altar of scientific research "to shame the antivivisectionists" has written the following letter, which appears in the *New York Medical Record* of March 1st, and which finally disposes of the gruesome legend: "Dr. Russell regrets the necessity that compels him to refuse recent newspaper statements associating his name with certain preposterous propositions, and desires to inform his friends, *clientèle* and colleagues that he brands the same absolutely and unqualifiedly false; the only foundation, in fact, for the sensational publications being a private letter under a *nom de plume* in reply to one addressed to the correspondence department of the *Brooklyn Daily Eagle*.—*Brit. Med. Journ.*, March 22, 1902.

Bacteriology and Sewer Air: Its Purification.

In an interesting note upon this subject just published in pamphlet form Dr. J.T.C. Nash, the medical officer of health of Southend-on-Sea, points out that sewer air is detrimental to health and repulsive to the sense of smell chiefly because of (1) offensive gases and (2) organic particulate matter. The offensive and prejudicial gases include sulphuretted hydrogen, sulphuretted ammonia, carburetted hydrogen, and carbon dioxide. The particulate organic matter comprises such bacteria, moulds, or yeast as may happen to be present. Various investigators have shown that different samples of sewer air vary greatly in their numerical bacterial contents. The bacterial flora of sewer air are not constant in kind, the number and variety of bacteria present depending on seasonal conditions and the special environment of the sewer. It appears to be established, however, that the proportion of moulds to bacteria is greater in sewer air than in the air of the street or even of an ordinary room. Dr. Nash agrees that it is of the greatest importance that sewers and drains should be so arranged as to minimise the possibility of contamination by splashing

and he regards it as equally important that strong currents of air should be avoided or that, when that condition exists, the air issuing from a sewer should be washed before it is allowed to escape through a ventilating shaft into the street. The importance of thus arresting particulate matter is obvious from the fact that in proportion as the draughts or currents of air in a sewer are stronger or feebler the number of organisms in the sewer air will be greater or less. Sewage organisms find their way into sewer air (1) by splashing; (2) by the bursting of bubbles from putrefactive changes; and (3) by motility and the agency of moulds. Dr. Nash maintains^o that all that is required to secure the innocuousness of sewer air is to admit it to a thorough washing with fresh water before it is permitted to mix with the street air *via* the ventilating shaft. Bacteriologically the results of this simple process are satisfactory, but it would be interesting to determine whether, in spite of this fact, washed sewer air has any poisonous effect on the organism.—*Lancet*, April 12, 1902.

Ovarian Pregnancy. *

In discussing the possibility of true ovarian pregnancy, Lawson Tait laid down certain conditions which must be fulfilled before a definite assertion of its presence could be made. Thus both of the Fallopian tubes and one ovary must be found absolutely intact; the other ovary must constitute the gestation cyst, and in the cystic wall there must be found microscopic evidence of ovarian tissue. Condamin (*Lyon Méd.*, March 2nd, 1902) has recently had under his care a case in which these conditions were, he believes, sufficiently fulfilled for the purpose of definite distinction. His patient, who is now 39 years of age, was married at 18, and miscarried six months afterwards. In November, 1893, she ceased menstruating, and during the following months presented the usual signs of pregnancy. In July, 1894, abdominal and sacral pains occurred and lasted for four days, and the breasts became filled with milk. Menstruation reappeared two months later, and the patient declared that for three years the size of the abdomen progressively diminished. In Nov., 1901, she suffered from renal colic. When examined at this time the right side of the abdomen was found to be occupied by a hard tumour which extended to a little above the umbilicus. The cervix uteri was displaced to the left. At the operation, a large white cyst was found, taking origin from behind the right broad ligament. The uterus was displaced to the left, but both it and the two Fallopian tubes were of normal size and appearance. The left ovary was a little

enlarged, but healthy. The tumour had to be freed from the appendix and intestines. The pedicle was of moderate size and corresponded to the entrance of the vessels. No trace of a right ovary could be found after removal of the cyst. The patient made a rapid recovery after the operation. The walls of the cyst were uniform, white, and pearly in places. The fœtus was well developed and not calcified. The placenta was implanted at the point of entrance of the ovarian veins. The cyst wall was unfortunately not examined histologically until it had been for some time in Müller's fluid. The most that could be said was that it gave the visual and tactile impression of certain ovarian cysts, and it was hardly probable that after seven years' distension unmodified ovarian tissue would be seen.—*Brit. Med. Journ.*, March 29, 1902.

Treatment of Acromegaly with Pituitary Bodies.

Sydney Kuh (Reprint from *Jour. Amer. Med. Assoc.*) instances cases indicative of the fact that the pituitary body "in some way exerts an influence" upon development and growth, thus having a functional relationship with the thyroid gland, since extirpation of the latter is followed by enlargement of the former; both contain iodine, and are similarly constructed histologically for the secretion of colloidal material; and while the pituitary body is almost always diseased in myxœdema the thyroid is diseased in acromegaly. Further exophthalmic goitre and myxœdema have been found associated so often with acromegaly as to make the occurrence more than a mere coincidence. Results of experiments in feeding with powdered pituitary bodies in three cases of acromegaly are given, in the first of which the characteristic symptoms had been slowly progressive for about four years, the patient gradually losing strength and becoming emaciated. Thyroid feeding gave some relief temporarily, but eventually lost its effect, when powdered pituitary bodies were substituted without any change for the better, but on their being suspended for a week the patient begged to be given the powders again, as without them his headache had become much more intense, and repeated withdrawals for short periods gave no evidence of any decided change except an increase in the mental depression during the period of abstinence. In Case II, where symptoms of intense headache and vomiting accompanied the other signs of the disease, directly 5 gr. of powdered pituitary bodies began to be taken three times a day there was no further attack of headache necessitating codeine though this had been required on five previous occasions, and, after

steady improvement with but one attack of headache during a temporary suspension of treatment, the patient was able to work again for more than a year, when she began to suffer from cramps and mental depression, but otherwise remained much the same. In case III a history of rheumatism and "asthma" with symptoms of vertigo began about four years previously followed latterly by the other characteristic signs of the disease. On 5 gr. of powdered pituitary bodies three times a day the headache, "weakness in the bones," vertigo, and hyperidrosis diminished, and ten months later "he felt better than he had been for years." In Cases II and III feeding with pituitary bodies certainly had a beneficial influence on the disease, the effect of suggestion having been carefully considered and eliminated as far as possible, and although organic changes cannot be benefited, there is no doubt that both in these two cases and in a number of others recorded subjective symptoms have obtained distinct relief.—*Brit. Med. Journ.*, March 29, 1902.

The Germs of the Sea.

At no particular spot has the sea been found to be free from organisms, although those isolated and recognised have proved to be harmless, consisting of actively motile rods and vibrios, cocci being less numerous. As might be expected, the number of organisms increases immensely as the shore is approached. Thus about a mile from the shore something like 4000 germs per cubic centimetre have been found, and this influence of the shore extends for four or five miles. Some hundreds of miles from land the number diminishes to 600 and at greater distances to 200 or less. Of course, the fact that algal vegetation is richest near the shore, providing a highly nourishing hunting ground for the marine organism, accounts for the myriads usually found there. Samples of sea water taken at some depth below the surface proved to contain only a few bacteria per cubic centimetre. Thus at half a mile below the surface only from eight to 12 bacteria were present. There is little doubt that even should pathogenic organisms gain access to the sea, as must be the case when sewers discharge raw sewage into it, their activity must sooner or later be destroyed. The sea is remarkable from a bacteriological point of view in containing phosphorescent bacteria and it is probable that some of these are disease-producing so far, at any rate, as regards certain aquatic animals. Thus a bacterium has been successfully cultivated from the body of the luminous talitrus which is both pathogenic and luminous. This bacterium invades the abdominal cavity of this aquatic animal and all its organs with a fatal issue. During the presence of the disease the victim shines with a green light which is said to be visible nearly a dozen yards away and which persists for some hours after the demise of the animal. It is not improbable that the luminosity of other marine animals may be due to the invasion of this light-and-disease producing organism. The very beautiful phenomenon of the phosphorescence of the sea is caused by photo-bacteria in part as well as by a variety of low forms of animal life. The eerie light is in no way connected with the element phos-

phorus as is very commonly supposed. The cause of the phenomenon is respiratory exchange or oxidation, an aerobic function. Sea phosphorescence is never witnessed in perfectly smooth water, while the brilliancy of the light when it is observed is always greatest upon the crests of the waves or where the water is in a violent state of agitation, as in the wake of a steamer. Its occurrence, therefore, is evidence of active oxidation. Could, again, the sea be sterilised phosphorescence would cease. The presence of highly combustible matter increases the light. A very simple experiment proves this. If the flesh of a fresh haddock or herring be placed in a 3 per cent. salt solution and kept at a low temperature (from 40° to 50° F.) the liquid will rapidly develop phosphorescence which becomes quite brilliant on adding a little glycerine or sugar, or what, in other words, is respirable material. It is curious that in marine life disease and death should be associated with luminous phenomena.—*Lancet*, April 12, 1902.

The Surviving Xiphopagus Twin.

In the British Medical Journal of February 22nd there was published an article headed the Separation of Xiphopagus Twins. It was based upon M. Doyen's operation performed on Radica-Doodica on February 9th. The operator has submitted his report to a highly competent tribunal—the Académie de Médecine—and an interesting abstract has appeared in the *Semaine Médicale* for April 9th. The treatment of the pedicle was described in the paragraph to which we have just referred. M. Doyen finds that the union at the ensiform cartilages was immediate, the pedicle simply existing on traction, as when the twins stood as much shoulder to shoulder as was possible. The most original part of the recent report is of much value. It shows that Radica developed considerably at the expense of Doodica, owing to the arrangement of the anastomosing arteries at the line of union being favourable for Radica and very unfavourable for her sister. In short, Radica received a considerable amount of arterial blood from Doodica which she did not return. This condition is clearly similar to the well-known phenomenon in an acardiac foetus. As in their case that form of monster is a one-yolk twin, but its fellow twin, through communication of their placental vessels, gets an unfair supply of blood; indeed the circulation is reversed in direction in the less favoured brother, who thus cannot develop, and becomes an cedematous mass sometimes reduced to a single limb; Doodica was much the weaker of the sisters and did not long survive the operation. She had at the time tuberculous peritonitis. Radica had suffered for long from strumous glands and possibly the tubercle had passed from them to Doodica's peritoneum, though the tuberculous peritonitis in the latter might well have been of independent origin. Just before the operation Doodica's temperature was 102.2°F., whilst Radica's was but 99.4°. This fact is set forth by M. Doyen as proof that the humoral theory of fever, not entirely discredited, is quite untenable. For the blood passed freely into Radica's circulation, too freely indeed for the nutrition of Doodica. Yet though

Doodica had a big stercoral tuberculous abscess in the pelvis, her sister was but little the worse, having next to no fever. Doodica succumbed to peritonitis due to rupture of the pelvic abscess into the peritoneum already universally affected with tuberculous peritonitis of the dry type. Radica has rapidly gained weight, the strumous glands in the neck and axilla have been removed and her health is now very good. The radiograph shows that her heart is in its normal position, whilst there is very marked lateral curvature in the dorso-lumbar region of the vertebral column. The operation certainly saved her and she has a chance of recovering more or less completely from her spinal deformity.—*Brit. Med. Journ.*, April 19, 1902.

Duration of Life in Epileptics.

In a recent *Thèse de Paris* (1902) by Dr. J. Carton an attempt is made to obtain definite conclusions regarding the duration of life in epileptics, a subject on which much vagueness of idea has prevailed hitherto. The chief causes tending to shorten the life of the epileptic are gastro-intestinal disorders, pulmonary tuberculosis and septic pneumonia following inhalation of food particles during a fit, and injuries sustained in fits. Dr. Carton collected information regarding the ages and causes of death of 419 epileptics at the following asylums—viz., Clermont, Maréville, and Bicetre, the patients being idiots, imbeciles, or feeble-minded. The following table gives the percentages of deaths at different age-periods in the epileptics referred to:—

Age-period.	Percent-age of deaths.	Age-period.	Percent-age of deaths.
5 to 10 years... ..	11.9	25 to 30 years... ..	8.6
10 " 15 "	14.3	30 " 35 "	6.2
15 " 20 "	22.4	35 " 40 "	4.5
20 " 25 "	9.6	40 " 45 "	6.2

Above and below these ages there were but few deaths—in all 15.8 per cent. of the total. The average age at death was 25 years and two months as deduced from the above table. Taking, however, different asylums it appeared that while the average age at death was 35 years and nine months among the patients at Clermont it was 39 years and four months at Mareville, 37 years and eight months in the department of the Bicetre Asylum under Dr. Chaslin, and 20 years and four months in the department of the same institution under Dr. Bourneville. The last section included the largest number of patients of the general total, and the average age at death when all patients were included was, as already stated, 25 years and two months. A comparison of this with the age at death of other patients in the same institutions showed that the average age at death amongst the latter was 50 years, so that the shortness of life of the epileptic seemed to be clearly established. Among the chief causes of death the following were ascertained, as well as the proportions of deaths attributable to each cause: asphyxia, 1.2 per cent.; fracture of the skull by falling in a fit, 0.9 per cent.; pulmonary congestion, 7 per cent.; bodily malnutrition, 10.7 per cent.; pneumonia and broncho-pneumonia, 11.9 per

cent. ; pulmonary tuberculosis 16·7 per cent. ; and severe and prolonged fits, 31·5 per cent. The remaining deaths were due to other causes. It thus appears that while nearly one-third of the epileptic patients died from severe or prolonged convulsions, 35·6 per cent., or slightly more than one-third, died from pulmonary troubles, such as tuberculosis or pneumonia, while only a small proportion of deaths (2·1 per cent.) was due to asphyxia or to injuries sustained in a fit.—*Lancet*, March 8, 1902.

Light as a Factor in the Etiology of Malarial Fever.

A. F. A. King (*Amer. Journ. Med. Sciences*, February, 1902) propounds a new view of the way in which climate modifies the vitality of the organism which causes malaria. That this is most active, and that the fever and other disorders it occasions is most rife in warm countries, is well known ; yet he adduces a number of important reasons for doubting whether the higher temperature is really the favouring element in the case. He quotes Manson's work on malarial diseases, who says that the more we know of these diseases, the less apparent becomes the rôle of temperature *per se* as a pathogenic factor and the more important the tropical fauna. Celli in his recent work (1900) observes that temperature and malarial fever do not run exactly parallel, and he reproduces a table of Tacchini's covering twelve years from 1871 to 1882 inclusive, regarding fever and weather factors, in which we see "that in the year 1879, when a true malarial pandemic raged, the mean temperature for the months of July and August was the lowest of these years. King is therefore led to suppose that the solar light and not heat is the element which explains the undeniable relation between hot climates and malarial fever. He observes that it is difficult to conceive how external heat can affect the parasite in the human blood since this latter is kept at a fairly constant temperature ; but that it is quite intelligible how light should penetrate the skin, and act upon the plasmodium to promote its development, especially in the case of the white races of mankind, whose greater liability to the disease is thus in part explained. He also draws attention to the fact, supported by numerous authors, that paroxysms of intermittent fever will not as a rule take place at night in the dark. Wood (*Practice of Medicine*, vol. i, p. 258) says : "It is worthy of observation that when the anticipating and advancing paroxysm reaches the period of darkness, it is either apt to be arrested in its course, or to leap over the night backward into the evening or forward into the morning." "In places where malarial fever prevails, the disease is increased by bright sunny weather and lessened by clouded skies." King quotes numerous instances and authorities in support of this statement. He draws attention also to the popular tradition that to prevent the occurrence of ague it is advisable to avoid sunlight. Lastly, the malarial parasite is a naked amoeba. Red light promotes the vital activities of amœbæ, while violet or purple light restricts them. The colour of the light diffused through blood is necessarily red. This statement is abundantly justified by reference to the experiments of Harrington and Leaming on the

common amœba proteus. In regard to treatment, it is curious, in connection with the above that prussian blue (an old remedy for ague and recently methylene blue, seem, so far, to inhibit protoplasmic movement in the malarial parasite as to prevent its sporulation and thus cut short the ague paroxysms. The peculiar bluish fluorescence of quinine is interesting in connexion with its (hitherto enigmatical) curative action.—*Brit. Med. Journ.*, March 22, 1902.

CLINICAL RECORD.

Foreign.

FOUR CASES OF RODENT ULCER TREATED BY X RAYS.

By JOHN WILLIAMSON PUGH, M.D. Lond.,
Brighton.

The following cases of rodent ulcer successfully treated by x rays are placed on record, as the number of such cases hitherto published is very small. The treatment is so successful that if applied at an early stage the ravages of this disease ought to be almost completely prevented. The danger of dermatitis is almost absent if the treatment is carried out under proper supervision, including an efficient arrangement of masks. There can be little doubt that the exaggerated fears of dermatitis which prevail have led to this efficacious form of treatment not being utilized to anything like the extent which it deserves, and which is desirable in the best interests of the patients. As a matter of practical detail I do not advise a sitting beyond fifteen minutes for cases of rodent ulcer. I am, however, at present giving longer sittings for a patient suffering from carcinoma of the breast, for which operation has been refused, special precautions being taken in this case against dermatitis. There can be no doubt, in my opinion that the x rays have a marked destructive effect upon lowly organised and rapidly-growing cells, as seen in the following cases of rodent ulcer and in recorded cases of ulcerating carcinoma. I have applied the same treatment to boils, and in several instances have noticed that the course of the suppuration was much curtailed.

CASE I.—Mr. S., aged 93, gardener, for his time of life enjoys very good health.

History.—Three years ago a small pimple was noticed on his left cheek. A year later he struck the pimple when chopping wood, and from that date it began to grow and ulcerate, and also to pain him at times.

State on Examination.—At the beginning of December, 1900, the ulcer was nearly circular, about an inch in diameter, the edges considerably raised (one-sixteenth to one-tenth of an inch) and depressed in the centre (crateriform). The discharge was blood stained.

Treatment.—I commenced treating him, with the x rays on Dec. 11th, 1900, using a coil which gave a 10-in. spark, and was worked

by a 12-volt battery. At first the rays were applied for 5 minutes twice a week, keeping the ulcer 6 in. from the focus tube. The face was covered by a mask of lead foil with a hole opposite the ulcer. The time of exposure was gradually increased to 10 minutes, and the tube was brought within 4 in. of the ulcer.

Progress.—Up to the middle of January, 1901, there was not much encouragement; at that time the ulcer was a little smaller and the edge not quite so raised.

On February 11th, and up to the 18th, I gave him a daily sitting of ten minutes, and by that time the mask had become too small through the edges tearing away, and thus the greater part of the right side of the face was exposed to the rays. The result was that the patient had a sharp attack of dermatitis over the exposed part, but the effect on the ulcer was most marked. The discharge and pain almost ceased, and the edge was considerably reduced. Lotio plumbi c. op. was applied and the dermatitis rapidly disappeared. From February 18th to March 11th the rays were applied every other day, the edge gradually disappeared. The ulcer acquired a healthy appearance, and healed up from the sides. The process was complete by March 18th, 1901, and the treatment was then discontinued. The scar at the present time (March 25th, 1902), is perfectly sound, and looks better than it did at first.

The rays were applied about thirty-six times altogether. The hairs were destroyed over the exposed part where he had dermatitis. The same thing happened to my own finger while attempting to intensify the effect of the rays by holding a convex lens between the focus tube and the ulcer. This was a useless proceeding, as the rays, I understand, are very slightly, if at all, refracted by an ordinary convex lens.

CASE⁴ II.—Mr. T., aged 83, was treated for a rodent ulcer upon the left temple, $1\frac{1}{2}$ in. by 1 in.

History.—It commenced about thirty years ago, and for many years it had been too tender to allow him to lie upon that side. During the last two years he had suffered very much from severe darting pains. The discharge was very abundant and bloodstained.

Treatment and Progress.—The treatment was commenced on March 18th, 1901. After a few sittings the first improvement noticeable was the disappearance of the pain and the lessening of the quantity of the discharge, which became of much lighter colour. Owing to the infirmities of the patient the rays could not be applied from April 27th to May 11th. Then a slight improvement was noticeable in the ulcer, the edge on one side was less raised, and its circumference was diminished. The tube had hitherto been placed about 4 in. from the ulcer, and the rays applied for seven and a-half minutes. As the ulcer was healing from the sides the distance of the tube was increased to 6 in. and the hole in the mask lessened so as to protect the new skin. Whenever there was any sign of dermatitis around the edges lead and opium lotion was applied. By the middle of July the ulcer was about $\frac{3}{4}$ in. in diameter. There was no pain, and he was able to lie on his left side. After the above date no rays were applied.

On returning from my holidays a month later I went to arrange for further application but to my great surprise the ulcer had healed up, thus showing that the diseased tissue had been destroyed, and also showing that there is no need to apply the rays until all vestige of such an ulcer has disappeared. The number of sittings was thirty-four.

CASE III.—Miss P., aged 48.

History and State on Examination.—A little over two years ago a small spot appeared on her forehead. By the time she came to me (April 22nd, 1901) it had gradually increased to $\frac{1}{2}$ in. \times $\frac{3}{8}$ in. and projected considerably beyond the surface. The proliferations were large and the veins showed very much on the surface. There was no ulceration or discharge, but she had darting pains radiating from the growth.

Treatment and Progress.—The rays were applied to the growth for the first time on April 22nd, 1901, the rest of the face was protected by tea lead. A ten minutes sitting was given every day. After the tenth sitting its appearance gradually changed, the veins disappeared, and a scab formed on the surface. The scab came off showing a raw surface with some bleeding, but each time the place was smaller. The sitting was then reduced in duration to 5 min. and the distance of the tube increased to 6 in. The last application (the 28th) was given on May 24th, and fortnight later the wound had entirely healed, and on December 14th, 1901, there remained a slight flat scar as if from an old burn.

The growth in this case had a year previously been regarded as a keloid. There was no ulceration until the use of the x rays, but the growth presented the appearance of soft reddish nodules, projecting from the skin. It was probably rodent ulcer prior to the stage of ulceration.

CASE IV.—Mrs. M. aged 70.

History and State on Examination.—This was a very old case of rodent ulcer of the nose. Owing to the ravages of the disease, and the use of knife and caustics, a considerable amount of the nose had disappeared. The rodent ulcer recurred in the scar on the nose and a spot of an apple jelly appearance showed on the cheek about $\frac{1}{4}$ in. beyond the scar.

Treatment and Progress.—After a few applications the ulcer on the nose soon began to heal. The spot on the cheek at first broke down into an open ulcer, and then healed up in the usual way. The number of sittings altogether were twelve. The parts were quite healthy, nearly three months after the last application of the rays.

In all these cases I have never used full power of the coil, only sufficient to produce fair penetration as shown by the screen, and as the tube became weaker the sparkage was increased.—*Brit. Med. Journ.*, April 12, 1902.

Gleanings from Contemporary Literature.**THE HUNTERIAN ORATION ON ORGANO-THERAPY.***Delivered before the Hunterian Society on Feb. 12th 1902.***By ARTHUR T. DAVIES, M.D. CANTAB., F.R.C.P. LOND.,****PHYSICIAN TO THE ROYAL HOSPITAL FOR DISEASES OF THE CHEST AND TO THE METROPOLITAN HOSPITAL ; PHYSICIAN (IN LONDON) TO THE ROYAL NATIONAL HOSPITAL FOR CONSUMPTION, VENTNOR.**

Mr. President and Gentlemen,—No one who undertakes the task of delivering the annual oration before this venerable society can do so without feeling the honour which it implies and the responsibility which it carries. I am deeply sensible of the former and am only too conscious of the latter.

[Dr. Davies, after a few introductory remarks, proceeded to recall to his hearers how intimately acquainted John Hunter was with the profound influence of the essential generative organs upon the animal economy and mentioned that the primitive use of animal extracts seemed to have been that they were given with a view to influence sexual functions. He gave references to, and extracts from, various authors dealing with the use of animal substances in medicine from the Ebers Papyrus, B.C. 1500, down to the latest instances revealed in the recently published Blue-book about the concentration camps. He then said :]

Dr. William Salmon in his work, "The New London Dispensatory," published in 1677, which is a kind of extra Pharmacopœia, gives an enormous number of preparations of extracts from the human body and from all kinds of animals. Thus there is a preparation of the cor hominis in powder for epilepsy, also of the ox, the stag, and the pig, the horn of the stag, the rhinoceros, and the unicorn ; the liver of the wolf, the otter, and the frog ; and the marrow of the goat, the ox, the stag, and the calf. There are several preparations from a man's skull—thus there are the tinctura, the aqua oleum sal, and the essentia cranii humani, also a spiritus cerebri humani—and a number of preparations from the mummy, as well as definite directions for making artificial mummies. He considers the body of the healthy young man as the best for the purpose. We have an interesting reference to the use of the spiritus cranii humani in the case of King Charles II. The symptoms of his case and the medical treatment adopted by the 14 physicians have been well narrated by Sir Henry Hallford and Lord Macaulay. The latter, after describing the king's urbanity with which he apologises for the unconscionable slowness of his death, says : "The patient was largely bled, a hot iron applied to his head, a loathsome salt extracted from human skulls was forced into his mouth." Macaulay adds : "The 14 doctors who deliberated on the king's case contradicted each other and themselves. Some of them thought the fit was epileptic and that he should have his doze out. The majority pronounced him to be apoplectic and tortured him during some hours like an Indian at the stake. Nothing better than dissension and vacillation could be expected from such a multitude of advisers. But many of the vulgar not unnaturally concluded, from the perplexity of the great masters of the healing art, that the malady had some extraordinary origin—i.e., murder." Sir Henry Hallford states that the salt was given in a julep of 25 drops "ad refocillandas regis vires." He also states that he saw a prescription for the same preparation which was found in the house of Cromwell's apothecary in Duke-street, Westminster, and which was used in the case of Sir Nicholas Throgmorton.

[Coming to the modern uses of organo-therapy Dr. Davies proceeded :]

TESTICULAR EXTRACT.

The scientific use, and consequent revival, of animal extracts as therapeutic agents in modern medicine may be traced to the lectures given in 1869 at the Paris School of Medicine by Dr. Brown-Séquard, his principal object being to establish the fact that all glands with or without excretory ducts give to the blood by an internal secretion principles which are of great importance, if not necessary, and his experiments, made at Nahant, Boston, U.S.A., in 1875, confirmed this view, and he further thought that if the internal secretion of a gland taken from a living animal could be safely introduced into the blood of men suffering from lack of that secretion important therapeutic results would follow. In 1889 he read a paper before the Biological Society of Paris in which he stated that he had found the means and that it consisted of subcutaneously injecting the liquid extract obtained from glands under pressure. He first injected himself with the fresh extract of the testes of young dogs with the result that he experienced a return of vital energy and rejuvenescence with renewed and efficient peristalsis and control over the bladder and sphincter. From these results he started the theory that the testes secreted into the blood certain products which powerfully influenced the bodily metabolism, more especially that of the nervous tissue. Pasteur, Bogroff, Variot, and many others confirmed his view, while others have entirely failed to obtain any result at all; in some cases it may be due to the fact that the glandular extract was not given fresh, as directed by Brown-Séquard, as sometimes it was boiled or dried or given by the mouth. Brown-Séquard and D'Arsonval have stated that, unlike the thyroid, thymus, or medulla of bones, the sexual glands and the pancreas are inert if swallowed; they recommend either a subcutaneous injection or a rectal one, which is nearly as efficacious. They published in 1893 a remarkable series of 342 cases of locomotor ataxy which were either greatly ameliorated or cured. Depoux, Gilbert Victoroff of Moscow, and Ouopensky report 85 per cent. of successes in various sclerosis of the spinal cord and 90 per cent. in locomotor ataxy. In 103 cases of cancer 97 were ameliorated, as shown by the healing of ulcers and cessation of pain and hæmorrhage, but the tumours themselves were unaffected. In phthisis Cornil, Henocque, Lemoine and Variot, and others obtained favourable results, also Constantin Paul. Although Brown-Séquard's results have not been confirmed by subsequent experience, yet his general statement as to the restorative power of testicular juice when subcutaneously injected is practically admitted. It produces a steady increase of oxyhæmoglobin, cardiac force is strengthened, vascular tone is exalted and oxygenation of waste products is promoted (as indicated by the increase in urea) and diminution of phosphoric acid in the urine. The mind becomes more clear and active. In anæmia the hæmoglobin has increased from 3 to 14 per cent. and in tuberculosis it has caused the cough to lessen with general bodily improvement and fall of temperature. In insanity its effects have been indefinite, except in some cases to improve the physical condition. Although the internal secretion of the gland has not been actually obtained the results of castration in children point to its existence, for it is well known that in such cases the hair does not grow, the skin remains soft, the arm and leg lengthen and the muscular state is poorly developed, the voice remains a treble, the mammae undergo enlargement, and such persons in later life tend to grow fat. Grey Edwards has published six cases in which much benefit was received by taking tabloids of orchitic extract. A.E. Wright of Netley recommends the testicle minced up and locally applied for arresting surface hæmorrhage on account of the nucleo-albumin which it supplies.

OVARIAN EXTRACT.

It is stated by Brown-Séquard that ovarian extract has a similar but less

powerful effect than testicular extract and he quotes 63 cases of old women benefited by its use. That the ovary contains some secretion of powerful physiological influence over metabolism is seen in cases of young girls whose ovaries have been both removed—a practice apparently common in barbarous parts of Asia. In such cases the characteristic changes at puberty do not occur, the pelvis does not enlarge, menstruation is absent and the mammary glands and genital organs atrophy; further, certain abnormal changes peculiar to the male occur, as pointed out by Hunter, such as growth of hair in the form of a beard or moustache; and the voice is more masculine than usual. Similar changes occur in a modified degree after double ovariectomy in adults, in whom this operation tends also to cause melancholia, palpitation, giddiness, and obesity. These symptoms are often relieved by the therapeutic administration of the ovarian extract which also often benefits such conditions occurring in the normal menopause. Cattle-breeders are well aware that removal of the ovaries in the cow increases the richness of the milk and also its quantity. That this condition occurs when all connexion with the spinal cord or sympathetic is severed points strongly to some internal secretion from the ovary into the blood influencing the mammary gland which favours metabolism. In favour of this it has been proved that double ovariectomy causes diminution of metabolism with increase of bodily fat and a lessened excretion of phosphoric acid. Bescon and Camboulois ("Le Suc Ovarien, Effets Therapeutiques") have found great benefit in the use of ovarian extract after castration and in amenorrhœa with chlorosis and in the menopause. Professor Landau used extract of pig's ovaries with beneficial results in climacteric troubles and in the symptoms following oophorectomy and amenorrhœa from prolonged lactation and hysteria. Bodon in a case of epilepsy developing at the menstrual period with scanty flow found ovarian extract of great benefit causing cessation of the fits and increased flow. Ferré and Bestron state that ovarian juice can cause death in overdoses and that males are more susceptible than are females. Given to dogs in overdoses the ovarian extract causes erection and ejaculation of semen; in large doses it causes hæmorrhage into the spinal cord and death; it is also given as an aphrodisiac. Stanley Boyd, assuming from Beaton's work the influence of the ovarian secretion over the mammary glands, has performed oophorectomy in 54 cases of cancer of the breast—19, or 35 per cent., were more or less benefited and 34 were not benefited, or only doubtfully. In Group 1 of successful cases life was prolonged on the average for six months and in 6 per cent. immunity was obtained for two and a half years. It is true that in some of the cases the thyroid extract was given, but it is difficult, as Stanley Boyd states, to estimate its value, for it was only administered when he had satisfied himself that oophorectomy had failed; he seems to think that the drug has no real effect. Lastly, he points out that Beaton introduced this operation for *inoperable* cases of cancer. Butlin considers the operation of oophorectomy as useless and Roger Williams considers it as horrible.

THE THYROID EXTRACT.

The study of the theories which have from time to time been put forward with regard to the action of this gland in the economy truly illustrates the drastic criticism of Dr. James Ward on scientific theories. In his work on "Naturalism and Agnosticism" he tells us: "The story of progress is briefly this—divergence between theory and fact one part of the way, the wreckage of abandoned fictions the rest." But the experimental work of Schiff, von Esselborg, Kocker, Victor Horsley, Murray, and others has thrown a flood of light on the subject and has established that myxœdema and its infantile form cretinism are diseases caused by the loss of the colloid secretion of the gland due to atrophy of its substance.

The clinical results obtained, first by grafting a portion of the gland, as suggested by Horsley, in myxœdema, and, secondly, by injecting subcutaneously a glycerine extract of the gland, according to Murray's method are truly astonishing. A large number of cases have now been published of the remarkable results obtained.

Since 1889 I have had 17 cases of myxœdema under my notice. Four of the patients were men and 13 were women. I have been able to keep in touch with all the male cases and with nine of the female patients. My earliest case is that of a man who had suffered from myxœdema for 10 years. He came under my care in 1889 and I have shown him before the society on two or three occasions. He has now been under the thyroid treatment, first by injections and then by the dried powdered extract, for 11 years, and when I saw him last week he was in excellent health. In another case the patient has been under treatment for 10 years and he is well. Mr. F. E. Cockell a few days ago kindly gave me an account of a case which I saw with him in 1896. He states that the man is in very fair health and that he takes a thyroid tablet occasionally. In the fourth male case also the patient after two years treatment is well. Of the female cases one patient has been under treatment for 11 years, another for 10 years, and the others range over periods of seven years, six years, two years, and one year and are all keeping free from the disease. Of the remaining four patients one has died and three I have lost sight of.

In cretinism Murray, Byrom Bramwell, and Thomson have published some extraordinary results of thyroid treatment—in one case the patient grew four and three-eighths inches in one year and in another six and a half inches in six months—with marked diminution of the blurring of the features, enlargement of the tongue, and the pendulous abdomen. In a woman, aged 27 years, the growth was four and a half inches in three and a half years and a remarkable development of the mammary glands took place with return of regular and normal menstruation and improvement in the mental condition—the last feature, as Murray points out, is much more marked in patients under 20 years of age and is in proportion to the duration of the disease.

It is remarkable that cretinism, like myxœdema, is more prevalent in the female sex than in the male sex, though not by any means in the same proportion, it being practically two to one against seven to one in the latter. Further, there is an undoubted connexion between goitre and cretinism, as it has been well attested that in districts where both are endemic one generation may be affected with goitre and the succeeding one with cretinism. Besides myxœdema and cretinism Murray has well shown that the simple parenchymatous goitres which occur in adolescents and young adults derive great benefit from thyroid administration, and further that it is often quite sufficient to obviate the necessity for surgical interference. It would seem that in these cases, as he suggests, the gland is called upon for extra secretion, that true hypertrophy is set up, and that the artificial supply enables the gland to rest and to undergo a partial atrophy and so diminish in size. Under this treatment the enlarged gland may lessen to two-thirds, one-half, or even one-third of its former size. In cases where there are adenomata or cysts this treatment causes diminution of the gland tissue itself in which they are imbedded and thus enables an operation to be carried out more easily. Kennicott collected 60 cases of non-malignant and non-cystic cases of goitre, 14 of which were cured, 29 improved, and 17 not improved. Angerer states that in 79 cases which he treated by thyroid extract the goitre was diminished in all of them. Stabel reports improvements in 92 per cent. of the cases and that when treatment was discontinued the goitre began to increase.

Besides the thyroid tissue itself there are four bodies in close anatomical

relationship with it termed the "parathyroids" and it has been shown experimentally that when portions of the thyroid body are removed a compensatory hypertrophy takes place but that the structure thus produced is normal parathyroid tissue rather than normal thyroid. Again, the structure of the thyroid body in exophthalmic goitre resembles more closely that of parathyroid tissue than normal thyroid; and, lastly, experiment demonstrates another remarkable fact, as yet unexplained, that removal of all the parathyroid bodies, small as they are, is followed by the same fatal effect that follows complete removal of all thyroidal tissue, and although the parathyroids do not contain colloid material yet Hutchison has found iodine in their composition. The removal of the parathyroids, according to Gleg, causes tremor, slow and unstable gait, and emaciation—a very different condition to the effects caused by removal of the thyroid itself, which, as Murray has shown, produces in the monkey subcutaneous swelling, dryness of skin, loss of hair, and a subnormal temperature. It is certainly remarkable that though the parathyroids contain iodine they have no effect when given in myxœdema and that in exophthalmic goitre, the symptoms of which partially resemble the loss of the parathyroid, they are in no way beneficial. From the symptoms of thyroidism and the clinical contrast of the two diseases it has been supposed that exophthalmic goitre is due to over-action of the thyroid gland and the administration of the thyroid extract, which was recommended at first, has not been considered advisable; indeed in many cases it produces positive harm.

Tempting as the theory is that exophthalmic goitre can be explained on the "over-action" theory, yet, as Hutchison points out, the absence of uniformity in the histological changes of the gland, the fact that the symptoms may be unilateral, and that the gland itself may not in some cases be enlarged in Graves's disease and can hardly be considered as over-acting, and the absence of any toxicity or alteration in the colloid secretion of the enlarged gland tends to destroy this hypothesis.

The thyroid extract has been used by Beadles, Carter, Claye Shaw, and Woods and found useful in cases of myxœdema with insanity, and the latter condition has in some cases been entirely cured. Macpherson and Dunlop, Bruce and Macphail extended the treatment to insanities generally—and these results met with so much success that many others have used the thyroid but with very varying results, the recoveries being from 0 to 50 per cent. Out of 1032 cases collected by Mabou and Babcock 16.8 per cent. of the patients recovered, 24 per cent. improved, and 59.2 remained unimproved. Easterbrook treated 130 cases and had 12 per cent. recoveries, in cases which were intractable to other forms of treatment. Large doses were used in every case except in myxœdematous form, and Easterbrook seems to think that it is the briskness and intensity of the metabolic reaction produced which is the valuable effect in large doses in insanity, and that the drug clears out of the system various transitional, and perhaps toxic, products of metabolism. All the patients who recovered improved physically as well as mentally. He concludes by saying that the thyroid is a powerful metabolic stimulant and that the early quickening of the pulse, the phosphaturia, and nervous and mental symptoms, all point to a special affinity of the drug for the nerve centres; further, that while small doses were tolerated well by the patients in all of his cases large doses were badly borne by those under 20 years of age, and much more so by those over the age of 60 years, the former specially tending to lose weight and the latter to exhibit failure of the pulse; also by patients who were emaciated and those also who were obese, probably in the latter case due to fatty degeneration of the heart. In cases of valvular heart disease the drug was borne well,

but these patients were also treated by rest and cardiac tonics. Four of his patients had carcinoma of the lower lip, œsophagus, pylorus, and pancreas respectively. No amelioration was produced except in the pyloric case, in which the gastric symptoms disappeared, the patient increased in weight and had a continuance of good health for two years when fatal hæmorrhage occurred; the diagnosis was confirmed post-mortem. The parathyroid extract has no effect in insanity except to raise pulse tension (Easterbrook: *The Medico-Psychological Association Prize Essay*, p. 38.)

The therapeutic use of the thyroid extract has been extended in many directions, to which I will refer, although time does not permit me to do so fully as I could wish. Byrom Bramwell, struck by the marked changes in the condition of the hair and skin after thyroid treatment in myxœdema, determined to try its effect in certain skin affections and obtained some remarkable results in psoriasis, lupus, ichthyosis, and alopecia. In a paper read by myself before this society on Oct. 25th, 1894, I narrated cases of psoriasis, ichthyosis, and chronic eczema which I had treated with much benefit in this way. Abraham has published the results in 90 cases of different skin affections and has shown that there is a minority benefited by thyroid extract. Pringle has shown from a careful and systematic study that the thyroid produced the more easy formation of healthy cicatrix in cases of cutaneous tubercle properly and systematically treated and thus tends to prevent badly-developed and unhealthy scar tissue. The type of case which answers best is that with superficial ulceration and hyperkeratosis. Sir Hugh Beevor showed before this society in 1898 two remarkable cases of universal alopecia successfully treated by thyroid extract. In tetany the extract has been used with marked benefit and success, which is interesting, as tetanic symptoms have often been observed after thyroidectomy. It is also very useful in relieving spasmodic torticollis, also in fibroid of the uterus and uterine hæmorrhage of some kinds it is said to be useful. Wooldridge showed some years ago that thyroid juice destroys anthrax poison. In certain forms of obesity the thyroid extract has produced remarkable results and it has been found of use in promoting union of fractured bones (Gautier), and in progressive myopathy, according to Lepine, it is beneficial.

In 1896 Beatson of Glasgow introduced the operation of oophorectomy combined with the administration of thyroid extract for cases of inoperable carcinoma of the breast and obtained some striking results and last year he reported another successful case. Hernan has reported eight cases which he has treated in this manner and which he has subsequently watched. In one the patient was alive and well four years after the operation; in the second and third life was prolonged by about 18 months of good health, in the fourth by one year, in the fifth and sixth no benefit occurred, in the seventh there was some benefit, and in the eighth there was decided benefit. Other surgeons, such as Watson Cheyne, Eve, and Lockwood, have obtained similar results, but Langton has stated that only from 18 to 19 per cent. are benefited by this treatment, and Butlin, who gave thyroid alone in his cases, obtained no benefit from it in any.

A remarkable case is recorded by Mr. F. Page and Dr. W. H. Bishop of a woman, aged 61 years, who was twice operated upon for carcinoma of the breast and its subsequent recurrence. As another recurrence took place a further operation was declined, and the thyroid treatment alone was tried for a period of 10 months, at the end of which time the disease had entirely disappeared, but six months afterwards there was another recurrence and the patient died.

THE SUPRARENAL EXTRACT.

In 1836 Brown-Séquard, struck by Addison's work, investigated the

action of the suprarenal glands and published the results of his experiments in animals, which are as follows. 1. That removal of the two capsules in dogs, cats, and rabbits and other animals causes death rapidly and more so even than extirpation of the kidneys. 2. That if a long interval is left between the removal of one and that of the other capsules life may last long but as shown by Tizzoni the animals die after considerable weakness or paralysis from a special organic disease of the nervous centres. 3. That the blood of animals deprived of the suprarenals is a poison acting powerfully on other animals; as shown by Langlois and Abelous. 4. That animals dying from the absence in blood of the secretion of these glands after removal can be revived at least for a time by the injection of the liquid suprarenal extract. These statements of Brown-Séquard were entirely confirmed by Abelous and Langlois and although the experimental work of other observers, amongst whom Tizzoni's must be considered as important, as pointing in a negative direction, yet all modern work tends to confirm strongly the conclusion that the suprarenals are functional glands of importance to the animal economy. In 1894 Chafford published an account of a female patient, aged 35 years, suffering from Addison's disease, whom he treated by subcutaneous injection of suprarenal extract prepared according to D'Arsonval's formula—13·5 cubic centimetres being given in the course of nine days; the result was doubtful. Similarly, Bra recorded two cases—a man, aged 37 years, and a woman, aged 42 years—whom he had treated with negative results. Oliver has published an account of a patient who took 45 grains daily of the extract; there was improvement in every respect, the bronzing became less, the appetite improved, and nausea seldom occurred. The case was under observation for two years and improvement was maintained so long as the treatment was kept up. He records, also, two other cases which derived benefit from the treatment and also another under the same treatment for 11 weeks without marked benefit. Box has recorded in the St. Thomas's Hospital Reports the treatment of six cases of Addison's disease by the suprarenal capsule administered either by the mouth or by the rectum, but as four of the patients were in an advanced stage of the disease one cannot draw any conclusion; in two other cases, however, although large doses were given, amounting in all to 7200 grains in one case and 3255 in the other, no real improvement took place in either. Although, as I have stated, Schäfer and Oliver found that the active principle of the suprarenal extract is not destroyed by artificial digestion, Vincent could produce no physiological effects on dogs and rabbits by large doses and Grünbaum failed to raise his own blood-pressure by taking the suprarenal extract by the mouth. Box states that in five out of seven cases the suprarenals were found to be caseous and he records an interesting fact that in one case, where there was no naked-eye evidence of tubercle, a guineapig was successfully inoculated with tuberculosis from it. Delépine had previously recorded a negative result. Rolleston, in his Goulstonian Lectures of 1894, records the case of a woman who had improved under suprarenal treatment. Lloyd Jones also published a case of Addison's disease which derived marked benefit in large doses from the treatment, the patient becoming practically well. Similar cases are recorded by Sauson and Stockton Kennicut has recorded 48 cases of Addison's disease, of which six were reported to be cured, 22 improved, 18 unimproved, and two aggravated by the treatment. Ringer and Phear record a case of a woman, aged 28 years, who temporarily improved for four weeks under 45 grains daily, increased up to a quarter of an ounce daily, but who subsequently died. It is interesting to note that Schäfer and Oliver obtained no results from suprarenals the medulla of which was caseous and the cortex of which was sclerosed, showing that there was no active principle. Dyer found the active principle in the suprarenal vein

and considered it a true internal secretion. J. S. Bury treated a case of Addison's disease in a girl, aged 13 years, with suprarenal extract without benefit. Douglas Stanley considered that the suprarenal extract in a case of splenic anemia produced a marked increase in red blood corpuscles. The benefit was temporary; post-mortem examination revealed sclerosis of the spleen, the pancreas, and the suprarenals.

The use of the suprarenal extract, like that of the thyroid extract, has been extended in other directions besides the one for which it was originally given. Langley states that the extract has a specific stimulating action on nerve-endings and that it produces effects similar to the stimulation of some one or other sympathetic nerve. Oliver and Schäfer have shown that it is one of the most powerful vaso-constrictor and cardiac tonic we possess and that it acts alike on striped and unstriped muscular tissue given either locally or by the mouth, and they consider that it might be of the greatest clinical value in cases of sudden cardiac failure due to shock, or hæmorrhage, or an overdose of anæsthetics, or for promoting uterine contraction, and recommend its very slow injection into a vein or, in extreme cases of cardiac failure, into the heart-wall itself. Gottlieb has shown that in animals poisoned with chloroform or chloral until the pulse has almost ceased the circulation is almost at once restored by injecting the suprarenal extract into a vein. Further, another remarkable property of the extract is the smallness of the active dose. Thus one-tenth of a dried gland produces a maximal effect on the heart and arteries of a 20-pound dog, and it is concluded from this that one-eight-hundredth part of a grain is capable of producing a well-marked physiological effect in an adult man, which is the smallest active dose on record of any drug in the Pharmacopœia, and when compared with the dose of digitalis and ergot required to produce a similar result, when subcutaneously injected, is markedly in contrast. Bates has shown that the intravenous injection differs in effect from that of the hypodermic or from that when the extract is given by the mouth. This action of the gland explains very well the extreme muscular debility and weakness and the low arterial tension in Addison's disease where its influence is absent. Acting on the results he obtained Oliver suggested and also tested the value of the extract where there is loss of vaso-motor tension as in asthenia, anæmia, cyclic albuminuria, and diabetes mellitus, in which last condition, according to Pavy, a vaso-motor paralysis involving chylipoietic viscera may stand at the foundation of the form of diabetes limited to defective assimilation of carbohydrates, also in exophthalmic goitre, heart disease, and capillary hæmorrhages. In one case of cyclic albuminuria Oliver states that the albumin disappeared and that in another it diminished. My experience in these cases so far is doubtful. In two out of three cases of diabetes mellitus under Bradford, Ringer, and Poore at University College Hospital the glucose was diminished. In a case of exophthalmic goitre the pulse-rate was lessened and the thyroid gland and exophthalmia were reduced. If exophthalmic goitre is due to over-secretion and absorption of the colloid material suprarenal extract ought to be of benefit as it has exactly the opposite effect on the vaso-motor system to the thyroid.

Valentine, Cleghorn, Cunningham, Kennicut, and Borulta have confirmed Oliver and Schäfer's results in the use of the suprarenal extract in heart disease. I have not been able to come to any definite conclusion as yet with regard to its value in these cases. Kenworthy has given the extract in 15 cases of hæmoptysis with good results. This I have tested in several cases with apparent good effects in some, but, as you are fully aware, there is no more *questio vexata* in medicine than to determine the *post hoc* and *propter hoc* action of drugs in checking hæmoptysis which often tends of itself to cease spontaneously. Cohen states that suprarenal extract is very useful in asthma associated with vaso-motor ataxia in neurotic subjects.

T. D. Lister has informed me of a case of asthma with low pulse tension which derived great benefit from the extract. Douglas has found it of great service in hay fever when applied locally or given internally and Curtis has used sprays of it (half a drachm to one ounce). Floersheim has shown that the suprarenal extract often restores strength and regularity to a feeble and irregular heart and confirms Schäfer and Oliver's statement that it does not cause rapidity of action, because it stimulates the inhibitory centre, but that if the vagus is divided the heart's action becomes more rapid and forcible. Bates sums his conclusions as to its action on the heart as follows. 1. The internal administration does not affect the normal heart and normal blood-pressure. 2. An intermittent pulse becomes regular and a weak pulse stronger. 3. It is temporary in action. 4. It is the most powerful cardiac stimulant known. He also states that cases of exophthalmic goitre are markedly benefited by it and that all inflamed tissues, such as occur in congestion of the eye, the throat, and the larynx, are most decidedly relieved by its application, either locally or if swallowed, and that by its powerful astringent action it facilitates operations on these parts in congestion of the larynx and tuberculous laryngitis with marked benefit. In intra-tympanic surgery Phillips has shown that the extract is of great service from its powerful vaso-constricting action. It is remarkable that the extract appears to have no toxic effect whatever, however frequently used internally or externally. As a local application it relieves pain occurring in cancer of the breast, œsophagus, and tuberculous laryngitis and periodontitis as recorded by E. A. Peters and also its topical use successfully arrested severe epistaxis in a case of hæmophilia. In insanity Easterbrook considers the extract of use in cases of acute maniacal excitement where, as Maurice Craig has pointed out, there is low blood-pressure and also because it lessens tissue oxidation.

THYMUS GLAND EXTRACT.

The experiments of Turelli on dogs show that extirpation of the thymus causes loss of strength and appetite, with diminution of red cells and hæmoglobin and increase of white cells. Abelous and Billard state that the thymus in the frog is an indispensable organ; total ablation of it causes weakness, paresis, and paralysis, hæmorrhage, and œdema with death from auto-intoxication. Svehla using a watery extract of thymus from man and animals says that intravenous injection in man, in the pig, and in the cat causes (1) lowering of blood-pressure, (2) acceleration of the pulse from its action on the heart, and (3) in large doses restlessness with dyspnoea and death. Reinbach, who applied the thymus clinically in Mackinley's clinic, says that it causes diminution in the size of goitre in cases of exophthalmic goitre, but in about 50 per cent. of the cases the goitre was unaffected. Hector Mackenzie tested the action of the thymus in doses varying from several ounces to 10 or 15 grains a day on 20 cases of exophthalmic goitre. His conclusion is that it has no effect on the heart or goitre or exophthalmos, but that it appears to be a remedy of some value as it improves the general condition, and some of the patients were satisfied that it benefited them. On the other hand, 15 cases which he also collected are published by different observers—Tatz and Guérin, Arthur Maude, Parker, Metcalfe, Owen and Cunningham—in 14 of which marked improvement took place in the pulse-rate, exophthalmos, and goitre. Dreschfeld tried the thymus in three cases without benefit. Mobius in his work on Basedow's disease says that several patients improved but not more or sooner than under other modes of treatment. I have seen distinct improvement in two cases and also in two cases of tachycardia. Macalister has reported temporary improvement in pseudo-hypertrophic paralysis.

THE PITUITARY EXTRACT.

Complete removal of the pituitary body causes lowered temperature, loss

of appetite, twitchings, *lethargy*, and death. Howell has shown that intravenous injection of the infundibular part of the pituitary gland causes a rise of blood-pressure, but that the hypophysial portion does not. This rise is accompanied by slowing of the pulse which still persists, though to a less extent, after division of the vagi. Schäfer and Swale Vincent confirmed these statements and also found a second substance which produces a well-marked fall of blood-pressure like cholin, but its action is not neutralised by atropine. Injection subcutaneously of a decoction of the infundibular part of the hypophysis shows a certain correspondence with the action of the suprarenal extract in causing contraction of the arterioles and augmentation of heart beat. The conclusion of these observers is that at present our observations appear to indicate that there may be specific active substances in the infundibular part of the pituitary gland which usually do not occur in nervous matter.

The pituitary extract has been used in cases of acromegaly owing to its hypertrophy being considered as a primary cause of disease. Ransom has obtained negative results in two cases with its use. H. D. Rolleston has published a case treated by the combined use of thyroid and pituitary extract on the theory that the gland is sometimes enlarged in myxœdema and is vicarious in action, and though Schäfer and Oliver have shown that the intravenous injection of the infundibular part of the pituitary extract and thyroid are exactly opposite in effect, yet they have found a second body in it which, like the thyroid extract, produces a fall of blood-pressure. In Rolleston's case headache was relieved, but it is well known that this symptom may be relieved alone by the thyroid. A case of acromegaly was shown some time ago by our late President Mr. F. Gordon Brown, who informs me that the thyroid extract continues to relieve the headache. Probably there is some connexion between acromegaly and exophthalmic goitre, as the former is sometimes associated with some symptoms of the latter, such as pigmentation, and Schäfer and Oliver have shown the similarity in action of the infundibular portion and suprarenal extract on the heart and arterial system. Kennicut has collected 13 cases of acromegaly treated by pituitary extract; seven showed varying degrees of improvement, five none, and one became worse. In two the violent headache and neuralgic pain in the limbs were lessened. R. Caton reported a case of acromegaly which whilst under pituitary extract varied in condition, but showed marked and rapid improvement when the thyroid extract was given alternating with it. Parson also reported a case where the headache was relieved and general improvement took place under thyroid extract. R. W. Dodgson also reports a case of acromegaly in which the lethargy became less and memory improved under the pituitary extract. Von Cyon has shown lately that the pituitary body regulates intracranial blood-pressure and bodily metabolism.

HEPATIC EXTRACT.

At the Thirteenth International Congress held at Paris in 1898 Gilbert and Carnot gave an account of their experimental researches on extract of liver. Injections of the extract in rabbits and dogs, whether subcutaneous or rectal, caused acceleration of biliary secretion and increase in urea and they found that in cases of alimentary glycosuria in man, after absorption of the liver, that the total quantity of glucose eliminated is smaller, the results being more marked when the absorption takes place by the rectum than by the stomach. The liver extract appears, therefore, to stimulate the hepatic cells and to help it to store up more carbohydrates and to transform them better. If there is hepatic over-activity any specific stimulant would tend to still further exaggerate it. In diabetes mellitus due to functional debility of the liver Gilbert and Carnot found the liver extract to be beneficial and they record a case of a woman with diabetic

gangrene of the foot in whose case the sugar was reduced from 160 grammes to 38 grammes in four weeks. The patient relapsed several times when the treatment was stopped but each time derived benefit when it was again resumed and the gangrene was healed. In cases of diabetes due to over-activity of the liver the extract does harm by increasing the sugar eliminat-ed ; it may be thus used as a means of diagnosis of an under-acting or over-acting liver, as well as a therapeutic agent. In alcoholic cirrhosis with ascites, jaundice, and œdema and hæmorrhages, the extract has proved very beneficial, also in a case of atrophic cirrhosis. According to these authors, pancreatic extract increases the sugar in diabetic cases which hepatic extract controls. I have used hepatic extract in one case of diabetic phthisis and under its influence the sugar apparently diminished. No other medicine was used.

THE PANCREATIC EXTRACT.

Besides the action of the gland in adding digestive process it has been found by the experiments of Miukowski, von Mering, and others that it plays an important part in certain forms of diabetes mellitus. By experimentally removing *in toto* the gland in dogs they produced diabetes mellitus ; further, Medon showed that if only a small portion of the pancreas be left, even if it has no intestinal connexion, diabetes is not produced, and that even a graft of the gland subcutaneously is sufficient to prevent diabetes. These experiments led Lépine to put forward the internal secretion theory that has been further elaborated by Tuckett who considers that the pancreatic secretion neutralises a toxic substance absorbed from the intestine through the lymph stream.

Although experimental removal of the pancreas produces diabetes mellitus it is a remarkable and interesting fact that injections of pancreatic extract, whether subcutaneous, intravenous, or peritoneal, and also pancreatic feeding, have not the slightest effect in preventing the glycosuria and clinically the same has been found to be the case. Dixon and Lépine have published interesting statistics on this treatment.

Hector Mackenzie has published results of two cases treated by the liquor pancreaticus with the result of general improvement, increased strength, and lessened thirst and quantity of urine, but no diminution in the sugar. Neville Wood obtained a similar result possibly due to pancreatic pills but in another case a negative result. Combe has reported a case of diabetes of eight years' duration cured by taking pancreatic sandwiches. He considers that the internal secretion is a glycolytic ferment which renders inert circulating glycoses. Williamson has published an interesting table of 26 cases of diabetes mellitus in all of which the pancreas was examined. In eight well-marked changes were found, in four slight changes, and in five atrophy. He suggests, like Tuckett, that in these cases the glycosuria is due to the absorption of a toxic substance from the intestine which is neutralised by the internal secretion of the pancreas. Lauder Brunton in 1874 tried raw meat for diabetes. Williamson also quotes Gilbert and Carnot who in cases of diabetic extract of definite hepatic origin advise the administration of hepatic extract which they consider acts by either increasing the power of the liver to store up reserves of sugar or to cause a more rapid destruction of hydrocarbons taken as food. In 1868 Langdon-Down published a case of fatty diarrhoea with diabetes which he treated with the pancreatic extract with a very successful result. The fat entirely disappeared from the stools, the sugar also disappeared from the urine, and the man gained in weight. Von Noorden has used pancreas and preparations of it with good result in cases of chronic steatorrhœa accompanying diabetes and the other cases of chronic steatorrhœa depending upon disturbance of the function of the pancreas.

EXTRACT OF INTESTINE.

E. Vidal of Perigueux has shown from experiments on rabbits that if pig's faecal matter be injected into the marginal vein of the ear the animal developed in 15 seconds violent convulsions and died, whereas in another animal of the same weight which had been previously injected with extract of intestine and then subsequently injected with faecal matter the only symptoms were slight dyspnoea with fairly marked myosis without convulsions and the animal did not die till the following evening, from which it would appear that the intestinal extract neutralised the toxic effect of the intestinal poison, the subsequent death of the animal being due to the inevitable septicaemia set up by a fluid rich in bacteria. Occlusion of intestine in rabbits, guineapigs, and rats showed that where the intestinal extract had been injected immediately the animals lived longer than the check ones and that even where stercoræmia had been allowed to commence injection of the extract preserved the animal's life longer, but in this case a much larger dose was requisite, so that not only has the extract a preventative but also a curative action. Vidal applied this knowledge clinically and has recorded a desperate case of strangulated hernia in a man, aged 49 years, with superficial respiration, intermittent pulse, and incessant faecal vomiting, in whom after injection of the glycerinated intestinal extract the general condition of the patient greatly improved and the removal of an enormous mass of gangrenous tissue, the two ends of the intestine being fixed to the skin, was successfully performed, and after three subsequent injections of the extract the patient recovered without interruption. Vidal concluded that the operation would not have been successful unless the toxic poison had been neutralised. There is no doubt whatever that patients in cases of strangulated hernia, even when the operation has been fully successful, sometimes die from stercoræmic poisoning, and to avoid this surgeons now advise emptying of the bowel above the stricture by a puncture with a small trocar and injecting into the bowel a dose of magnesium sulphate through the canula after emptying it. Vidal has also recorded a case of invagination in a boy, aged six years, in whose case injection of the glycerine extract neutralised stercoræmic poisoning. The importance of this work has been confirmed in quite another direction by alienists.

Since Bouchard's classical work on the toxicity of the urine, when he showed that in normal urine there existed seven toxic substances not present in cases of uræmia owing to retention in the body, great attention has been paid to auto-intoxication from products of the gastro-intestinal canal which are believed to cause certain forms of nerve disease and of insanity. W. Ford Robertson states: "I am strongly inclined to the belief, which is supported by a large amount of evidence, that various forms of toxæmia of gastro-intestinal origin are the chief factors in the pathogenesis of a large array of acute and chronic diseases, including severe mental diseases, such as general paralysis, senile insanity, locomotor ataxy, idiopathic epilepsy, acute and chronic mania, and melancholia," and he has demonstrated in proof of his views marked alteration in the structural condition of the stomach and intestine in general paralysis, leading to auto-intoxication from disordered products of gastro-intestinal formation. Lately John Macpherson, Commissioner of Lunacy in Scotland, has stated in his last report that he regards the symptoms of vaso-motor disturbance and sudden loss of nervous function which are characteristic of the early stages of general paralysis as indicating the probable action of a toxic agent in the alimentary canal, and that it is, in fact, a form of auto-intoxication. Some years ago Sir Andrew Clark started the theory that anæmia and chlorosis in young girls were due to an auto-intoxication from the constipation so commonly associated with this condition. In a minor degree the symptoms

of constipation are well known to us all and one is reminded of the saying of Lord Byron in one of his letters where he writes: "Talk of champagne there is nothing that cheers your spirits like a dose of Epsom salts."

RENAL EXTRACT.

Brown-Séquard, believing that uræmic symptoms are only partly due to accumulation of certain substances in the blood, recommended renal juice in cases of kidney disease and showed from experiments on rabbits and guinea-pigs that life lasted much longer after the extirpation of both kidneys when injections of renal liquid were used, and he points out that there is a marked difference in the mode of death in cases of auria when the internal secretion continues, even though the kidneys are in a great part diseased, to that of cases of disorganisation of the kidney when the internal secretion is stopped; the difference being one of much less violence than in Bright's disease and nephritis. In support of his view he quotes the case recorded by Sir James Paget in which for 13 days there was total suppression of urine without any symptoms of any kind. He also states that in these cases the condition is not to be explained by vicarious urination of the skin. D'Arsonval injected renal liquid in a case of uræmia with temporary benefit, but the patient ultimately died. Neale quoted an analysis and comparison of urine and beef-tea made by Masterman who showed how closely similar they are in composition, the only difference being that beef-tea contains less urea and uric acid, and therefore both are stimulants and not nutritious agents. Neale states that one of the worst cases of epistaxis which he had seen and which had resisted every form of European medicine ceased after the patient drinking a pint of urine, and he had also seen in South America a glass of a child's or young girl's urine tossed off with gusto and apparent benefit as a tonic. He states that in that country urine is a common vehicle for medicine and that of little boys is highly recommended for malignant small-pox. Moss used the glycerinated renal liquid in rabbits, healthy and nephrectomised, and obtained only negative results. In 1952 Bauer found urate of ammonia and guano of great value, if used externally, in phthisis, lupus, and morphæa. In 1862 Hastings published an elaborate report on the treatment of phthisis by the excreta of reptiles. Lately H. Harper has given urea in certain cases of phthisis which appear to have derived much benefit from its use—the ground on which it is given being that phthisis and gout are antagonistic.

SPLenic EXTRACT.

Schäfer and Oliver have shown that the intravenous injection of splenic extract in a dog cause an immediate fall of arterial pressure, followed by a pronounced continued rise. Wood states that he used extract of spleen with some benefit in exophthalmic goitre but he points out that it is badly borne by the stomach as it causes pain and vomiting and that hypodermic injections are apt to produce local abscesses. He was led to its use in exophthalmic goitre by the fact of the spleen being enlarged in myxœdema and cretinism and after thyroidectomy, thus suggesting a relationship between the two glands. Carpenter recommends the extract in typhoid fever on the principle that absence of leucocytosis is a marked feature in this disease, and he considers that it ameliorates the symptoms, reduces the temperature, and hastens recovery.

In their clinical studies with spleen and thyroid extracts Charles Bois and Nefkerr state that they treated 22 cases with eight recoveries, and they sum up as the result of their investigations (1) that the most general result of this treatment is physical improvement; (2) that its action on the mental state is undoubtedly evident in a fair proportion of cases, especially of adolescents and sometimes direct and at other times owing to improved physical conditions; and (3) that it materially assists in rendering thyroid

treatment efficacious, the patient after a course of spleen treatment becoming more susceptible to the action of the thyroid.

PULMONARY EXTRACT.

At the French Medical Congress held at Montpellier in 1898 Brunel gave an account of the use of pulmonary juice ("*quelques Indication Nouvelles sur l'Emploi du Suc Pulmonaire*") and considered it an efficacious adjuvant in certain conditions where it is possible to stimulate the vital resistance of the patient, but he expressly states that it is not bactericidal or antitoxic in its action ("*mais comme un remede renforçant la resistance de l'organisme du poudon en particulier*"). It acts best in cases of pleuro-pulmonary suppuration with osteo-arthritic condition as described by Marie—in this the amelioration is rapid and the bony deformation is arrested—but it is useless in advanced cases of phthisis. Arnozan has employed pulmonary juice with success in purulent pleurisy of a chronic nature communicating with the exterior either through the pleura or into the bronchial tubes, and non-tuberculous in character and associated with bony changes. He states that the temperature falls, the pus becomes less abundant and more clear, and the articular stiffness and weakness disappear. Cassaet ("*De l'Action du Suc Pulmonaire*") states that tuberculous cases with a chronic pleuro-pulmonary septic condition are much benefited by pulmonary juice.

NERVOUS EXTRACTS.

The researches of Halliburton have shown that extract of sympathetic ganglia produces a fall of blood-pressure and that other extracts of the nervous system, as the brain, spinal cord, and ganglia and nerves produce the same result. The effect can be explained on the hypothesis that cholin is the principal active agent. Gumprecht, like Mott and Halliburton, found in normal cerebral spinal fluid minute doses of cholin and in diseased conditions, in which the catabolic side of nervous action is preponderant, cholin is immensely increased. Thus Mott and Halliburton state that in 150 cases of general paralysis examined by them they found widespread degeneration, not due to degenerative condition of the nerves but to the production of such powerful poisons as cholin or neurin found in the cerebro-spinal fluid of general paralytics, the poisons being the result of auto-intoxication. Brain extract has been recommended by Brown-Sequard and Althaus in epilepsy, locomotor ataxia, chorea, and neurasthenia. In mental diseases no definite results have been produced. Robertson thinks that brain extract may act as a tonic in mild and early cases of neurasthenia.

MAMMARY GLAND EXTRACT.

Shober states that extracts of sheep's mammary gland in tablets equivalent to 20 grains of the desiccated gland given by the mouth three times a day have a positive action on the uterus, causing contraction and so diminishing bleeding. It is, therefore, similar to ergot but far more reliable and surer, and its continued use has no unpleasant effects in uterine fibroids, characterised by excessive and weakening menorrhagia and metrorrhagia; bleeding can be controlled in a few weeks, and the health of the patient is improved. The tumours are inhibited in growth and diminish in size up to a certain point, and by its use the patient can be placed in a more favourable condition for operation. It is also useful in subinvolution of the uterus from any cause unassociated with cancer or structural change, the uterine canal coming down from three inches to one and half inches in five or six weeks. Leucorrhœa and irregular bleeding cease and backache and other reflexes disappear. It is of no use in cancer, dysmenorrhœa of ovarian and tubal origin, or malposition or stenosis.

PAROTID GLAND EXTRACT.

The extract of this gland is of much use in controlling the pain of un-

Complicated ovaritis, where the ovaries are enlarged and prolapsed. Bell of Glasgow has found pareid extract useful in ovarian disorders, especially in cases of enlarged and tender ovaries with dysmenorrhœa, metrorrhagia, chronic endometritis, and subinvolution.

I have endeavoured to bring before you a method of therapeutics which starting from remote antiquity, has come down to the present day, and whilst "tracking out how new thoughts are linked to old ones and seeing how an error cast into the stream of time leaves a streak behind lasting through many changes of the way of man, and noting the struggle through which a truth now rising to the surface, now seemingly lost in the depths, eventually swims triumphant on the flood, we may perhaps the better learn to appraise our present knowledge and the more rightly judge what of the thoughts of to-day is on the direct line of progress." That John Hunter should have independently observed the effects of removal of the essential organs of generation is not surprising—it was simply the outcome of his all grasping and all observing "don't-think-but-try" intellect. But to him is also due the credit of making these observations in a scientific spirit, and although the words "internal secretion" are not once mentioned in his original paper yet one cannot but feel they are writ large across it. The records of our society show that this spirit of observation has never been wanting in our Fellows. It is only necessary to recall such names as William Blizard, Clift—who though not belonging to our society attended its meetings—the Babingtons, Richard Bright, John Hilton, and Jonathan Hutchinson to prove our intellectual affiliation with John Hunter. Let us in our turn see that we pass on the sacred fire to those who will come after us, ever mindful of the words of the greatest Hunterian orator "that in the world of thought 'he that is mortal may produce that which is immortal.'"—*Lancet*, April 19, 1902.

THE FUNCTIONS OF THE PLACENTA.

All recent research has gone to enhance the physiological dignity of the placenta, and to raise it to a high place among the organs of the body. In this respect it bears some resemblance to the thyroid gland, once little or nothing accounted of, now regarded as the cause of so many diseases, and the cure for so many more. For long the placenta was looked upon merely as the medium through which nutritive materials and oxygen passed from the mother to the fetus, and effete particles and carbonic acid from the fetus to the mother; it was considered to be simply a fine sieve through which percolation took place, or a diffusion membrane obeying the laws and regulations of osmosis. Now there is a tendency to regard the after-birth as physiologically capable of performing the most intricate vital processes, and to see in the epithelial covering of its villi a highly differentiated tissue with almost miraculous powers of selection, elaboration, and digestion. The truth doubtless lies, as it so often does, somewhere between these two extremes.

It would seem to be almost certain that the placenta has the property of selection, for it has been found that there is more glucose in the maternal than in the fetal blood; this fact may be held to prove that even eminently soluble substances do not pass from mother to fetus or from fetus to mother by the simple laws of osmosis. There is no evidence to suggest that red blood corpuscles can pass through the placenta either in the matrifetal or in the matripetal stream, but there is some reason to suppose that leucocytes can do so, for the blood of the umbilical vein has been observed to contain an average excess of 4,000 leucocytes per c. mm. over that of the umbilical arteries. Further, while eosinophilic leucocytes have been met with both in the vein and the arteries, and while the blood of

both gives the iodophilic reaction, this reaction is more marked in the blood of the vein, and the leucocytes which contain iodophilic granules are more numerous in it. It would appear, therefore, that not only is there a migration of white corpuscles from the maternal to the fetal blood, but also that these cells are retained in the fetal tissues and carry with them certain substances having a certain importance as yet undefined.

Few analyses of the placenta have been made, but from these few it appears that it has a neutral reaction, and that it contains a large amount of water (nearly 84 per cent.), standing in this particular midway between renal tissue with 82.7 per cent. of water and the grey matter of the cerebral cortex with 85.8 per cent. Further, of the matters removed by extraction most are albuminous in their nature, and only a small part is true extractive. It is not clear whether these albuminous substances come from the mother or are formed in the placenta itself. As to the ashes of the after-birth, there is a large amount of phosphorus, an excess of soda over potash, and a large amount of lime. It would seem that most of the phosphorus-containing matters are easily extractible with water. Experiments have been made with sterilized infusions of the placenta, from which it would appear that the organ is not toxic in the ordinary sense of the word. These experiments, however, have been very few in number.

Some evidence of an indecisive kind has of late been brought forward to show that the placenta has an internal secretion which passes to the maternal organism. In or on the epithelium covering the villi clear droplets have been recognized, and have been regarded as the placental secretion on its way through the efferent vessels to the circulation of the mother. The droplets have been considered to be albuminoid in nature. It is, of course, quite conceivable that they simply represent dead epithelium from the surface of the villi. There is also some evidence that the placenta has a power of storing up in its substance mineral poisons and perhaps toxins and microbes, and so of saving the fetus from their malefic influence. In this respect it would seem to resemble the liver in the adult. Whether or not this be the manner of its action there can be no doubt that the placenta is a protective agency in antenatal life. Why it sometimes succeeds and sometimes fails to protect the fetus is an enigma yet to be solved, for the easy explanation that it becomes permeable by microbes and toxins when its own tissues are diseased, and when more especially there are hæmorrhages into its substance, is insufficient. At present we know not the laws that regulate placental permeability, but we know that there are laws.

A most interesting side of the placental activities is that concerned with the nature of the minerals and other substances which pass through it at the different months of pregnancy. New light has been thrown on this difficult subject recently by the chemical analysis that have been made of the fetus at different ages of intrauterine life. From these it would appear that the transplacental interchanges vary considerably with the epoch of pregnancy. For instance, the fixation of minerals in the fetus occurs chiefly in the third trimester of gestation. This is specially true of the iron, and there would appear to be a storing up of that metal in the fetus during the last three months of antenatal life—a fetal hypersiderosis which is accompanied by a marked maternal hyposiderosis.

In the first half of pregnancy there is a great predominance of the soda over the potash, but in the last weeks the potash evidently passes over in abundance, for in the full-time fetus the two elements are present in nearly the same amount—a result which is due, no doubt, to the development of red corpuscles and striped muscle. There is little or no increase in the fixation of phosphoric acid in the last months; but there is a great increase in the lime in association with the formation of phosphate of lime; evidently the unborn infant does not assimilate all its phosphate of lime in that

form, but fixes first the phosphoric acid, as nuclein or lecithin, and then the lime. There is a very great increase in the amount of fat in the fetus in the last month of antenatal existence, but whether this substance passes through the placenta or is formed in the fetus is by no means clear.

It is evident, then, that the substances passing through the placenta differ not only in quantity but also in quality at the different stages of intrauterine life. It is evident also that if the fetus be expelled prematurely from the uterus, as happens, for example, in the induction of premature labour, it comes into extrauterine life without having experienced all the varied physiological experiences of its intrauterine existence. The loss of some of these experiences may be compensated by the new influences which come to play upon the organism in its post natal environment but it is difficult to imagine how others can be counterbalanced. For instance there would appear to be enough potash in human milk to make up for the loss suffered by the infant in leaving the uterus before the great transference of that substance through the placenta took place; on the other hand, the quantity of iron in the milk is quite insufficient to raise that metal to the amount which is stored up in the fetal tissues in the last three months of pregnancy. It would seem, then, that among the several means that are adopted to keep the prematurely born infant in life and health should be the administration of iron in some easily absorbable form, such as the peptonate.—*Brit. Med. Journ.*, April 19, 1902.

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THE KING-EMPEROR'S ILLNESS.

KING EDWARD VII. ascended the throne on January 23, 1901, on the death of his mother, VICTORIA the great and the good, the noblest woman that not only held material sway over the mightiest empire in the world, but was literally enthroned during her long reign on the hearts of the millions that people that vast empire. His Majesty was to have been formally and solemnly crowned on the 26th of this month (June), but an attack of illness which might, in our humble opinion, have been averted if he had paid but the slightest attention to self, has upset all human calculation, and proclaimed with a terrible emphasis the truth which has been ruling the destiny of the human race since its creation, but which is so often disregarded and forgotten—"Man proposeth, but God disposeth." Perhaps it was right that such a chastening should come from on high on a nation that had become but too flushed and elated with joy at the material success that has followed a prolonged and sanguinary conflict with another nation. We look upon this as a special act of mercy and grace to that nation which we believe have yet long to fulfil a beneficent destiny in the world under the guidance and ruling of Providence.

The illness of our sovereign has been diagnosed by the best physicians and surgeons of England as Perityphlitis, and the

diagnosis has been confirmed by the result of the surgical operation that has been performed. A large abscess in the right iliac region has been evacuated, and to the great rejoicing of his subjects His Majesty's condition has been progressing very satisfactorily since. The temperature has come down to normal, appetite has improved, nourishment is being taken and tolerated, strength is increasing in proportion, and what is of the greatest importance and is a sure sign of approaching convalescence is, that His Majesty is cheerful and in good spirits, and is able to frequently see and speak to the Queen and the Prince of Wales. Nothing can be a more welcome news than this, and we have no doubt his medical attendants will take every precaution to avert a relapse. The disease is a serious and treacherous one, and the slightest irregularity may undo what has so far been so successfully achieved.

It must not be forgotten that His Majesty had, at the end of 1871, suffered seriously from typhoid fever, and the cœcum and the appendix might have been permanently weakened thereby, and who knows but that the present illness may not be a remote consequence of the illness of over thirty years ago? We should rejoice over the satisfactory progress the Royal patient, under the blessing of God, is making; but we should not allow it to blind us to the untoward possibilities that may develop from the slightest error. We are led to this remark from the perusal of a telegram that has come to this country, in which, from the expectation of rapid recovery, the hope is being already entertained that the Coronation may be held so early as the middle of August. The ceremonies attending the coronation are of too arduous and fatiguing a nature to be borne with impunity immediately after convalescence from an illness of such gravity.

If the disease is not, as we hope, more than *Peri*-typhlitis, that is, inflammation of only the peritoneal lining of the cœcum and appendix and the adjacent cellular tissues, without involving those parts of the large intestine, then the convalescence that has already so happily commenced will lead to rapid recovery, but this should not tempt His Majesty's medical advisers to allow him to be subjected to any function that is calculated to be a severe strain upon his physical and mental energies.

THERAPEUTICS AS A SCIENCE.

XI.

(Continued from Vol. xxi, No. 5, p. 187.)

LIMITATIONS OF THE SCIENCE.

WE have considered the limitations of Therapeutics from the point of view of Disease. We have now to consider the limitations of the Science from the point of view of drugs. It will have been seen that we have taken diseases as ordinarily understood, and accidents and poisonings which give rise to diseases, under the same category. We have done so under the persuasion that the so-called diseases proper or natural diseases are but the results of accidents or of poisonings or of both, not obvious indeed, but traceable to either on minute investigation. From the point of view of diseases there is an irreducible minimum of the limitations of therapeutics which cannot under any circumstances be bridged over, even with the most perfect armamentaria of drugs, and which therefore must be looked upon as absolute.

It is otherwise with the limitations that we have to consider from the point of view of drugs. Here the limitations are reducible with every advance in pharmaco-dynamics, or of the knowledge of the effects of drugs on healthy and diseased organisms. Diseases or abnormal conditions of the organism may be said to be practically innumerable. Not only do old diseases appear in their original forms but they appear also in endless new forms from change of the circumstances which enter into their causation; and new diseases are continually arising from changes in modes of life with advancing or retrogressing civilization. To meet these endless varieties and species of diseases we have innumerable substances in the inorganic and organic kingdoms which are either absolutely not food or act more as disturbers of health than as nourishers of the body. These substances have to be discovered and their effects on the organism have to be carefully noted, before the diseases, of which they are remedial agents, can be truly cured.

In the consideration of this subject it is well to say in the beginning that we exclude those diseases which can be recovered from by the adoption of suitable hygienic measures and that we take in only those diseases which cannot be cured by hygienic measures alone but require in addition the administration of

drugs. We do not stop to discuss the question whether diseases which hygiene can remove cannot be removed by drugs also, nor the reverse question whether diseases which are undoubtedly cured by drugs cannot also be cured by attention to hygiene. We assume that each has its province which cannot be encroached upon by the other.

The discovery of drugs as remedial agents cannot, in the nature of things, be effected all at once. It must necessarily be a slow process, especially if we remember that that discovery can only be made by provings on healthy human beings. Hence, though each addition to it makes the materia medica more and more complete and perfect, absolute completeness and perfection can never be attained; and therefore at all times the number of drugs for the cure of diseases must be short of the actual number necessary. This fact imposes upon therapeutics limitations which for the time being is absolute, but which can be narrowed further and further as fresh drugs are discovered.

This limitation is especially observable in the application of homœopathic therapeutics, for one of its fundamental doctrines is that the action of every medicine differs from that of others, or as Hahnemann fully and clearly pointed out in sections 118 & 119 of the Organon: "Every medicine exhibits peculiar actions on the human frame, which are not produced in exactly the same manner by any other medicinal substance of a different kind. As certainly as every species of plant differs in its external form, mode of life and growth, in its taste and smell from every other species and genus of plant, as certainly as every mineral and salt differs from all others, in its external as well as in its internal physical and chemical properties, so certainly do they all differ and diverge among themselves in their pathogenetic—consequently also in their therapeutic—effects. Each of these substances produces alterations in the health of human beings in a peculiar, different, yet determinate manner, so as to preclude the possibility of confounding one with the other." So that "there can be, in a medicinal point of view, no equivalent remedies whatever, no *surrogates*." In other words, what is curable by Aconite cannot be cured by Belladonna or any other remedy, what is curable by Bryonia cannot be cured by Rhus or any other remedy, and so on, and so on.

Hahnemann was fully aware of this limitation of homoeopathic therapeutics. "It sometimes happens," says he (*Organon* §162), "*owing to the moderate number of medicines yet known with respect to their true, pure action, that but a portion of the symptoms of the disease under treatment are to be met with in the list of symptoms of the most appropriate medicine, consequently this imperfect morbid agent must be employed for lack of a more perfect one.*" And he warns us in the next section not to expect from this medicine a complete, untroubled cure, "for during its use some symptoms appear which were not previously observable in the disease, (and which are) accessory symptoms of the not perfectly appropriate remedy. This does by no means," he goes on, "prevent a considerable part of the disease (the symptoms of the disease that resemble those of the medicine) from being eradicated by this medicine, thereby establishing a fair commencement of the cure, but still this does not take place without those accessory symptoms, which are, however, always moderate when the dose of the medicine is sufficiently minute."

In the absence of a full and complete *materia medica* the above is the only possible mode of procedure that can be adopted in order to treat particular cases; but it must be admitted that this is more of the nature of tinkering, however unavoidable, and that this is not the kind of therapeutics which the strict fulfilment of the homoeopathic law demands. It is not always, however, as Hahnemann asserts, that "the accessory symptoms of the not perfectly appropriate remedy" are moderate when its dose is sufficiently minute. Our experience goes the other way. The very minuteness or fineness of the dose makes the action more penetrating, and the accessory symptoms developed in the diseased and therefore unusually sensitive organism may be the symptoms of a graver disease than the one for which the remedy has been administered.

We do not say that such untoward development of cases does invariably follow the administration of remedies not strictly appropriate, but the fact of such development sometimes taking place should make it a matter for serious consideration by the physician whether he should not wait and watch the natural development of the cases before he should hasten to do a thing which it would not be in his power to undo. We know that

patients and their friends naturally become impatient and clamorous for medicine, but that should never tempt the physician to lose his patience. In such cases pious frauds in the shape of administration of placebos may be allowable. And it will be found that positive certainty, if not attainable at the first, would be so at the second or third visit, and that patients would be the better rather than the worse for avoiding all haste in their treatment. People should be made to understand that the advice of doctors is more valuable than their drugs, and if they can be so educated they will not expect some medicine at every visit of the doctor.

It may be argued that if the practitioner has to look to the strict fulfilment of the law of similars, he will have to wait and watch indefinitely before he can administer a single remedy for any case. "For," as Hahnemann himself has observed, which he could not fail to do, "it is next to impossible that medicine and disease should cover one another symptomatically as exactly as two triangles with equal sides and equal angles." Increased experience enabled Hahnemann to get over this difficulty. He found that even "the small number of homœopathic symptoms present in the best selected medicine is no obstacle to the cure in cases where these few medicinal symptoms are chiefly of an uncommon kind and such as are peculiarly distinctive (characteristic) of the disease ; the cure takes place under such circumstances without any particular disturbance" (*Organon* § 164). The same experience taught him : "If, however, among the symptoms of the remedy selected, there be none that accurately resemble the distinctive (characteristic), peculiar, uncommon symptoms of the case of disease, and if the remedy correspond to the disease only in the general, vaguely described, indefinite states (nausea, debility, headache, and so forth), and if there be among the known medicines none more homœopathically appropriate, in that case the physician cannot promise himself any immediate favorable result from the employment of this unhomœopathic medicine." (§ 165)

Even with this modified definition of the similia the limitations of the Science of Therapeutics based upon it are not reduced. For no two drugs will produce the same characteristic pathogenetic effects ; and therefore a particular disease will remain uncured so long as the drug, capable of producing a

similar diseased condition with all its characteristics, has not been discovered. The physician, with the known remedies, may tinker on, but will never be able to effect a true cure.

(To be continued.)

"HOMŒOPATHY IS AT LAST WAKING UP."

The dawn of the nineteenth century saw the birth of Homœopathy, the true science of therapeutics. For nearly the first half of the century it was chiefly under the nursing of its accoucheur, the immortal Hahnemann, though others, who saw the divine origin of the Science and became his disciples, helped its development and growth. After the death of Hahnemann the science has been under the sole care of his disciples and of the disciples of the disciples. The history of Homœopathy has been a most interesting and instructive history like the history of the other true sciences the light of which has revealed the ugly features of the false sciences which had taken possession of the human mind. It is a history of the conflict of vested interests with truth, in which the darkest and most ignoble passions were arrayed on one side, and the brightest and noblest sentiments and the undying heroism of martyrdom were arrayed on the other. It is a history which bears testimony to the greatness of truth and its power of achieving triumph in the end. But it is a history which shows also the tenacity of error and the perverse persistency of the human mind to cling to it in spite of conviction, when it bolsters up false dignity and maintains the sources of sordid gain even though it be at the expense of human life.

The dawn of the twentieth century finds Homœopathy fully a century old, of quite healthy and sturdy growth, and with a record of brilliant achievements in the most important department of human concern,—health, but still unrecognized by Governments and Universities dependent upon Governments. It is true that in the United States of America Homœopathy has made progress, and has got a footing, such as it has no where else, not even in the land of its birth. It has there got about fifteen thousand practitioners. It is recognized by some of the individual States, and it has got its own universities, colleges, hospitals, asylums, societies, &c. But still it is not recognized by the United States as a Government. The old school still dominates

all governments of the world and has, in consequence, its own voice in legislation for the regulation of the medical services in the army and the navy, and state-aided institutions.

The American Institute of Homœopathy, the oldest medical organization though it is essentially an organization of the new school, has, at its last annual meeting in June 1901, inaugurated a movement to obtain or rather exact from the United States Government official recognition of Homœopathy. Dr. A. B. Norton, of ophthalmologic fame, in his presidential Address, thus spoke in favor of the claim of recognition :

"The present is the most auspicious day for Homœopathy. With the dawn of the new century it begins an epoch-making period. What shall the record be ? That depends upon the men and the women of this association. When my successor, one hundred years from now, presents the record of Homœopathy and of this society, it will be one unparalleled in the history of medicine. He will report that within the first quarter of the present century Homœopathy was admitted on equal terms with allopathy in the service of the army and navy of the United States, and that its record has been such that two-thirds of the medical service is in the hands of the Homœopathic School.

"The battle to secure this recognition and standing will be a hard-fought one, and it will last for many years. The contest we believe must be commenced and kept up year after year until it is won. The grounds on which our claims shall be based are that Homœopathy is recognized by law equally with allopathy. That the army and navy are supported by public taxation. That patrons of Homœopathy pay a large portion of this tax. That the first principle of a free government is that there shall be no taxation without representation. That therefore we are entitled by equal rights to a proportionate representation on the medical service of the army and navy on the basis of taxation, as the ratio of the taxes paid by adherents of Homœopathy to those paid by our old school friends. This contention should be supported by statistics showing that members of the army and navy service are believers in the Homœopathic practice, and the argument should be made that they are entitled to the medical treatment they desire. Other statistics should show that our graduates are equally educated in the requirements of this service.

and that our treatment of these diseases is equally or more successful.

"The position of health officer in every town, country and state in the Union must be as readily obtainable by graduates of Homœopathic colleges as of the old school colleges. Life insurance companies must be taught to make no discrimination on account of his school of medicine against any applicant for the position of medical examiner for any company. We must insist upon and receive our rights in every State in the way of equal representation on all boards of medical examiners and a proportionate representation in all State hospitals, asylums, &c. Our legislatures must be made to understand that no medical legislation can be enacted without conference and endorsement by the representatives of our school."

A similar movement has begun in England. Three months after the annual meeting of the American Institute of Homœopathy, that is, in October 1901, at the first meeting of the Session 1901-1902 of the British Homœopathic Society, Dr. Burford in his masterly presidential address set forth in clear and forcible language what the polity and policy of Homœopathy should be in the present day, for its systematic expansion which is a duty we owe to mankind. This can only be effected by the education of the laity, by the enlightenment of the profession, and by the expansion of our own organization. For the attainment of the first object the distribution of popular expositions of homœopathy, as in the Homœopathic League Tracts and Dr. Burnett's "Fifty Reasons for being a Homœopath," would, he thinks, be enough. For the attainment of the second object, that is, for the removal of the widespread abysmal ignorance on the part of the Profession of the actual principles and practice of Homœopathy, Dr. Burford "could scarcely wish any more effective plan than that a copy of *Sharp's Tracts* or *Hughes' Pharmacodynamics* should be systematically supplied to every recent graduate." For "it is at the plastic period of life, before hostilities have been given to fortune, that the choice between the two paths has to be made." And to check the much unethical stealing of our thunder he would wish each medical library throughout the kingdom had a copy of Clarke's *Materia Medica*.

Dr. Burford was "not sanguine of considerably influencing so conservative a body as the profession at large by argumentative methods." Their ignorance is invincible and they cannot be convinced, but they can be subdued and compelled to give up their "policy of bad manners and supercilious superiority," by the only "most potent force which lies, and will lie, in the securing of a fair recognition by the State; in the chartered right to educate and examine in our doctrine and practice; and in the

insistent removal of the blockade which excludes us from military and naval appointments, Government Commission work, the advisory State posts, or any public duty for which our members may be severally fit." But Homœopathy has not made the progress and acquired the status in England that it has in America, and therefore its organization needs expansion in order to be able to plead its cause with convincing statistics before the people and the Government.

This expansion should consist in making provision for teaching which does not exist, for drug-proving which has been long in abeyance, for adequate development and multiplication of our hospitals which are the only outward and visible signs of our system, for we must never forget that Homœopathy is what our hospitals practically make it, and for original research, which has not yet been undertaken, but which is necessary to show our capacity for scientific work. All these will require large sums of money to be fully and adequately carried out. Where is the money to come from? Whereas the old school has almost imperial revenues, the new school has yet none. Of the former, "each teaching centre," says Dr. Burford, "apart from students' fees, has an endowment, in some instances rivalling nearly the taxation of a Province in magnitude. Each of the examining bodies, and all that appertains to them, as museums, libraries, laboratories, endowed lectureships, each is a focus of wealth which supplies for us an insistent moral. Over and above these such substantial subsidies as Colonial expeditions, the stimulus of high Professional lectureships in accordance with the wishes—and wills—of pious founders—these add to the solid financial positions which many a great mercantile institution might envy."

It is impossible all at once to compete with the old school in the matter of financial resources, but we must begin or we shall never be able to command any. "A policy of expectation," said Dr. Burford, "that the great world of its own initiative will one day suddenly acclaim our merits—this is a policy of drift and will neither achieve nor deserve success. I hold it disloyal to the faith that is in us that we should be content with any subordinate sphere of influence in public life, or acquiesce in any ignoring of our professional status." He therefore proposed the institution of a "Twentieth Century Fund," which for our needs may be any amount, but for the present may be limited to £10,000.

The result of this powerful and inspiring appeal was the Meeting held on April 25, 1902 of which we have given a full report under our *Gleanings*. The Hall of the Stationers' Company, which was lent by Mr. Alderman Truscott and the Court

of the Company, was, we learn, quite filled with a very representative audience. As our readers will see the speeches delivered were excellent and stirring, Dr. Burdford's here again being particularly so. Dr. Clarke reminded the meeting that he had no belief in the power of abstract rights, as having enjoyed them for the last 100 years they had made no headway. The speeches must have been very persuasive, for before the meeting closed the Secretary appointed by it was able to announce that the sum subscribed on the spot was a thousand pounds. So we see, as Alderman Truscott said at the meeting, that "Homœopathy was waking up" in England. We need hardly say that we wish the movement every success.

A SKETCH OF THE LIFE AND WORK OF THE LATE DR. RICHARD HUGHES.

By R. E. DUDGEON, M.D.

The sudden and unexpected death of Dr. Richard Hughes will cause a painful sense of bereavement to all the followers of Hahnemann throughout the civilized world. There was none comparable to him as an exponent of homœopathy, no works on its practice which have had such an abiding reputation and utility as his, no treatise on that bed-rock of homœopathy, the *Materia Medica*, which can rival his wonderful *Cyclopædia*. His fame is not confined to Britain. Wherever homœopathy is practised his name is a household word, his books are the valued guides of the practitioners, his services to the scientific development of homœopathy are acknowledged.

Dr. Hughes was fortunate at the commencement of his homœopathic career in Brighton, in gaining the friendship and companionship of Dr. Henry Madden, one of the clearest headed and ablest of the pioneers of homœopathy in this country. In association with him, he published in the *British Journal of Homœopathy* some valuable studies of several of the most important medicines. His first great work, *A Manual of Therapeutics according to the Method of Hahnemann*, is still the best of guides to homœopathic practice. When he died he had not completed the correction of the last sheets of a new edition, almost entirely re-written, of this work; it will be published in a few weeks. His *Pharmacodynamics* is and probably will long remain the best standard work on our medicines. The originality of its design and the thoroughness of its execution are alike conspicuous. It is indispensable to the practitioner, and it is the most excellent work we can place in the hands of enquirers into the homœopathic system of medicine. The vogue it has obtained in all English-speaking countries, and by its translation in the continent of

Europe, demonstrates the high estimation in which it is held by Hahnemann's followers everywhere.

But Dr. Hughes was not content with producing works on homœopathic practice. He felt that if homœopathy was to make progress, and secure the approval of scientific minds, the records of the effects of medicines as shown in their provings, must be presented in a scientific form, not jumbled unconnectedly together in the usual schema form, in which it is impossible to discover the real morbid picture of the medicinal disease developed in each prover in the natural order of their occurrence and their connexion with one another. This could only be done by giving the diary of each prover separately, so that it could be studied as a true picture of the artificially-produced medicinal disease. This work, the conception and execution of which is entirely his own—for the contributions of Dr. Dake, whose name is associated with his on the title page, were insignificant if not absolutely nil—is known to us all as *The Cyclopædia of Drug Pathogenesis*, and is in four large octavo volumes. A Repertory to the pathogeneses in these volumes, and including those of the medicines in Hahnemann's *Materia Medica Pura* and *Chronic Diseases* forms an extra volume, the sole work of Dr. Hughes.

But these works are by no means all we owe to the inexhaustible industry of our departed colleague. He joined the editorial staff of the *British Journal of Homœopathy* in 1863, and continued in it till its cessation in 1884, contributing many original papers and careful and generally appreciative reviews of many of the homœopathic works published during that period. When the British Homœopathic Society resolved to publish a quarterly periodical of their own—their *Annals*, which used to be published irregularly, having ceased to appear—Dr. Hughes was requested to undertake the editing of it. He readily consented, and the members of the Society will gratefully acknowledge how well he has executed his self-imposed task, which was very different from the editorial work of the *British Journal*, as it is solely occupied by papers read in the Society and its provincial branches, and the discussions thereon, together with a summary of the cases reported in foreign homœopathic periodicals, and excludes leading editorial articles and reviews, the chief and pleasantest labour of the quarterly he formerly edited. He continued throughout his whole career to contribute original articles of great value to the homœopathic periodicals both here and in America.

In 1881 he delivered the second Hahnemannian oration, "Hahnemann as a Medical Philosopher," which was much admired. When the School of Homœopathy, in connexion with the London Homœopathic Hospital, commenced teaching, he was

appointed to the post of Lecturer on *Materia Medica*. Some of his lectures have appeared in this journal; they deserve to be collected and published in a separate work.

But the untiring activity and devotion to homœopathy of Dr. Hughes was not confined to writing books of inestimable value, to editorial function, or to delivering lectures. He was, if not the absolute inventor, at least the indefatigable organiser of the International Homœopathic Congresses, 'which at five years' interval brought together zealous homœopaths from all parts of the world. His position as Permanent General Secretary of these Congresses entailed on him immense labour, which he underwent with admirable patience and skill. The International Congress of 1886 afforded a conspicuous example of Dr. Hughes's courage, tact, and resourcefulness. The preceding Congress of 1881 had decided that the next meeting should take place at Brussels, which was considered to be a most convenient locality for the majority of British, Continental, American, and Colonial practitioners who might be expected to attend. The Belgian representatives, through their leading colleague, Dr. Martiny, accepted the duty of making the arrangements for the meeting of the Congress at Brussels "*avec empressement*." But shortly before the date fixed for the Congress, at the eleventh hour so to speak, Dr. Martiny issued a circular stating that the Congress could not be held at Brussels, nominally because he had not received a sufficient number of adhesions to the plan, or an adequate supply of papers to be read at the meeting, more likely because he was afraid of the trouble it would give him. Though Dr. Hughes offered to make all the needful arrangements, the Belgians declined to accept his offer. The Belgians were determined that no Congress should be held on their sacred soil. About the same time an article appeared in the chief German homœopathic periodical deprecating the holding of an International Congress in Belgium or Germany, as it would interfere with the annual meeting of their own "Central Society"—a mere parochial affair. Dr. Hughes, though no doubt annoyed, was not disconcerted or dismayed by this unexpected and unreasonable conduct of his Belgian colleagues. He immediately made arrangements for holding the Congress at Basel, in Switzerland, and with the hearty co-operation of some of the Swiss homœopaths, the Congress proved a great success. It is interesting to observe that several Belgian and German homœopaths attended the Congress, showing that all did not share the hostility to an International Congress displayed by those of their countrymen who professed to speak in their name.

In his capacity of permanent secretary, Dr. Hughes attended and was mainly instrumental to the success of all the Interna-

tional Congresses. In whatever part of the world they were held, he made a point of being present. Twice he crossed the Atlantic when the Congress was in the United States, and he never failed to attend the meetings in France. Such devotion to the cause, entailing great personal inconvenience, inexhaustible patience, rare tact, and intelligent labour, commands our profoundest admiration. What future International Congresses will be without the presence and organizing talent of their tactful and ever courteous permanent secretary, we do not like to contemplate. Nowhere are Dr. Hughes's services to homœopathy more appreciated than in the United States. In 1884, not a Congress year, the Boston University School of Medicine invited him to deliver a course of lectures. These lectures were published in America under the title, *The Knowledge of the Physician*, one of the most fascinating and at the same time instructive books on medical subjects ever written by a physician. A society was established in Boston under the name of "The Hughes Club," having for its object the study and proving of medicines, a volume of which has been published giving an excellent proving and arrangement of the pathogenetic effects of Gelsemium.

It is not until we have lost him that we can adequately realize what a great power Dr. Hughes was in the world of homœopathy. His books we read and avail ourselves of in our daily practice, hardly conscious of the toil and research he had expended on them, and hardly considering how potent they have been in influencing for good the present position of homœopathy in Britain. This is owing to their eminently scientific and practical character, their well-reasoned defence of the therapeutic rule we hold, their masterly advocacy of the application of scientific methods and, I might almost say, of common sense to the practice of homœopathy, their convincing refutation of the extravagant doctrines of some of the most self-asserting and self-sufficient professed adherents of Hahnemann, their persistent advocacy of the absolute necessity of tracing the pathogeneses in our *Materia Medica* to their source, and of eliminating from our *Materia Medica* all records of morbid action which have no better authority than the observation of symptoms occurring or disappearing during the treatment of disease.

Dr. Hughes was an admirable speaker. There was always about his utterances an evidence of knowledge, conviction, and earnestness. He knew so thoroughly the subjects he spoke about that it was always a pleasure to hear him. His facts were so correct, his illustrations so apt, his arguments so acute, and his judgments so sound, that the impression often left was that after he had spoken there was nothing more to be said. The British Homœopathic Society and the Annual British Congress, whose

meetings he rarely failed to attend, though they always involved a long journey to and fro, will sadly miss his accustomed presence and his edifying remarks. His manner of speech was always modest and never dictatorial. When he differed from the author of a paper, he expressed his dissent almost apologetically, and gave his opponent so much credit for the points on which he agreed with him, that his observations could not give offence. He had promised a paper on "Homœopathy among the Allopaths," for the next Annual Congress to be held in London in July.

But like all men who freely express their matured opinions on controversial subjects, he had his detractors on both sides of the Atlantic among some who cannot bring themselves to avail themselves of the sensible plan of agreeing to differ on points of opinion as distinguished from matters of fact. His earnest efforts to obtain for homœopathy the only sure basis of a pure *Materia Medica*, a real record of the pathogenetic effects of drugs, uncontaminated by admixture with the more than doubtful symptoms appearing or disappearing in patients under treatment gave mortal offence to the advocates for the retention and addition of these impure symptoms. And yet Hughes's views on this subject were not novel; they are even to be found in Hahnemann's own works, though he did not always act on them himself.* Our departed friend's wise and thoughtful advocacy of what he and many others believed to be a more scientific presentation of the morbid pictures developed in the individual provings of medicines, in their natural order, sequence and connections, his well-considered objections to their dislocation and confusion in an artificial schema, were regarded as a sort of *lèse majesté* against Hahnemann himself, and excited the wrath of the advocates of the bad old plan, who attacked him with a bitterness and unfairness singularly out of place in a scientific discussion. But

Non ragioniam di lor, ma guarda e passa.

As a controversialist Dr. Hughes was singularly amiable. While defending his own opinions and opposing those of others he was always courteous, and seemed to have more pleasure in discovering points of accord than of disagreement with his opponent. He appeared always to see the good there was in others,

* *Vide Organon*, s. 142: "But how some symptoms of the simple medicine employed for a curative purpose can be distinguished amongst the symptoms of the original malady, even in diseases, especially those of a chronic character that usually remain unaltered, is a subject appertaining to the higher art of judgment, and must be left exclusively to masters in observation." Undoubtedly Hahnemann did not mean to include under the title "masters in observation," the Dicks, Toms, and Harrys, who seek to introduce into the *Materia Medica* the symptoms they suppose their medicines have produced or cured in patients of all sorts.

and to be blind to their faults. In his frequent discussions, orally and in writing, he avoided everything like irony and sarcasm, and he never ascribed unworthy motives to his opponents for the opinions held or the acts done by them.

Dr. Hughes was a many-sided man. Whilst we knew him as an exceptionally well read and able practitioner, a skilled diagnostician and pathologist, an enthusiastic homœopathist whose whole life seemed to be devoted to the scientific development and propagation of homœopathy; to others he was the honoured and beloved pastor of a church in which on retiring from practice, about two years ago, he was appointed to a high office, and in connexion with which he published some greatly esteemed works. He had a large acquaintance with the best literature of ancient and modern times, and he possessed a thorough knowledge and no mean skill in music. But he never made any ostentatious display of his many accomplishments, and of those who knew him as a physician few were aware that he was anything else. He was like a diamond with many facets, those who saw only one facet imagined that all the lustre of the jewel was there, and never knew that there were other facets shining with equal brilliance on others, though unseen and unsuspected by them.

He was suddenly struck down by heart syncope, far from home, in Dublin, on the 2nd April, at the comparatively early age of sixty-five, while still at the height of his mental powers and apparently in perfect health; not too soon for his fame, for that was already secured, but too soon for his friends, for whom his loss is irreparable, and too soon for homœopathy, which will greatly miss his invaluable services. We buried him in the lovely village of Albury, amid the beautiful scenery he loved so well, on the 10th of April, by a noteworthy coincidence, the anniversary of the birth of the great Reformer of Medicine, whose most able disciple and interpreter he was. It is a strange irony of fate that I should be writing an obituary notice of my friend so much my junior, when according to all natural expectation our parts should have been reversed. I can truly say:—

He was a man, take him for all in all,
I shall not look upon his like again!

The members of the growing school of medicine he so powerfully helped to grow, may well ask:

Quando ullum inveniet parum?

—*Monthly Homœopathic Review*, May 1902.

EDITOR'S NOTES.

Intestinal Obstruction in Labour: Fatal Perforation.

Champetier de Ribes and Daniel (*Comptes Rendus de la Soc. d'Obstét. de Gyn. et de Pédiat. de Paris*, December, 1901) sums up the literature of intestinal obstruction in labour. Out of a score of cases the cause of the obstruction was independent of the labour in all but two. Vinay, Gottscheid, and Spencer Wells have reported cases where there was a direct relation. De Ribes and Daniel's case was in a laundress aged 31. She had undergone three years earlier an operation for tubal pregnancy, and becoming pregnant on this occasion she entered hospital before term, as advised when she recovered from the operation. Ten days after admission the uterine contractions began; within a few minutes the patient was seized with a violent pain of another kind in the left side of the abdomen. The temperature was 101° ; labour was very easy and spontaneous, and all seemed well. Symptoms of peritonitis set in on the third day, the signs of obstructions reappearing. On the fifth day she died; a coil of sigmoid was seen to be gangrenous; the intestine was pressed on lower down by a pelvic abscess. Purulent and faecal fluid was found in the peritoneal cavity. A strong band of adhesion passed from the fundus to the sigmoid flexure, and there were other bands; they seem to have been stretched or torn during labour, and some faecal matter set up the suppuration. The adhesions, however, were sufficient to obstruct the intestine, the colon sloughed, and general septic peritonitis followed.—*Brit. Med. Journ.*, April 26, 1902.

The Occurrence of Arsenic in the Animal Organism.

In 1899 Gautier detected traces of arsenic in the thyroid gland and in other organs of individuals who had not suffered from arsenical poisoning or undergone treatment with arsenic medicinally. Cerny (Hoppe-Seyler's *Zeits. f. phys. Chemie.*, Bd. xxiv, H. 3 and 4) accords the results of the examination for arsenic of the organs of individuals who had not taken this substance either medicinally or in toxic quantity during life. In Cerny's observations the greatest care was taken in the testing of all the reagents used; they were first ascertained to be perfectly free from arsenic. The thyroid gland of 6 individuals was examined. In 3 cases traces of arsenic were found, in 1 case a slight trace, in 2 arsenic was not detected. In 7 other cases both the thyroid gland and the liver were examined for arsenic; a trace was present in the thyroid in 5 of the cases, and in the liver in

4. Cerny points out that the quantity of the arsenic had no relation to the weight of the tissue examined. A trace of arsenic was also found in the thyroid gland of a pig, but arsenic was not detected in 2 other cases; also it was not detected in a sheep's thyroid. The human thymus was examined in 3 cases, but no arsenic was detected. A slight trace of arsenic was found in the thymus of a cow, whilst none was detected in a sheep's thymus; also a trace of arsenic was found in the skin and hair of a dog. Cerny concludes that in the animal organism minimal traces of arsenic may be found, but he believes that it has no function in the organism and is not constantly present.—*Brit. Med. Journ.*, April 26, 1902.

Arrow Poisons.

Professor L. Brieger, who sometime ago published the results of an investigation of the poison used by the Wakamba tribe for their arrow heads, has now examined some of the poisons used by other natives of German East Africa for poisoning their arrows. The Wakamba poison, which is a whitish crystalline glucoside, with the formula $C_{29}H_{46}O_3$, is a cardiac poison, as are all the known arrow poisons, for example, Lewin's ouabain, strophanthus, etc. A fatal dose for rabbits was 0.0003 gram per kilo. weight. Warm-blooded animals showed laboured respirations, severe dyspnoea, and convulsions during the first quarter of an hour, and death ensued later. The drug, applied locally to the eye, produced anaesthesia of the cornea and dilatation of the pupil. Brieger has found that the cardiac symptoms produced by subcutaneous injection of the poison used by the Wagogo are identical with those already given, but when applied locally to the eye, the pupil contracted, but no corneal anaesthesia occurred. The poison is obtained from the *acoconthera abessynica*; the fruit of this tree is non-poisonous, but the stones of the fruit, the leaves of the branches are highly poisonous, and contain a deliquescent amorphous glucoside, which proved to be the active cardiac poison, and a crystalline substance, which was freely soluble in alcohol. The active poison is known as "Mshangu" and is usually gained by boiling the branches. Another arrow poison also met with is obtained from the *Candelaber euphorbia*. Its action is considerably slower than Mshangu. It has a strong pungent, objectionable odour, is opalescent, and contains gum. Injected subcutaneously, it produces local suppuration and necrosis. At first sight the action recalls that of the *toxalbumens*, but it differs from these in that no antibody can be produced. These poisons may prove useful in medical therapeutics.—*Brit. Med. Journ.*, May 3, 1902.

Hydrastis Canadensis in Goitre.

William Cuthbertson read a paper on goitre before the Chicago Medical Society on March 19th (*Med. News*, April 5th). He said that goitre was a non-inflammatory enlargement of the thyroid body, either general or partial. He divided goitre clinically into (1) vascular; (2) hypertrophic or parenchymatous, (a) simple, (b) miasmatic, (c) exophthalmic; (3) adenomatous cystic; (4) pneumatic; (5) malignant. The goitre of puberty and pregnancy belongs to the vascular and simple hypertrophic types, and formed the principal subject for consideration in the author's paper. The different forms of treatment of the various tumours of the thyroid gland were about as numerous as the writers on the subject. With the exception of the surgical cases, the treatment of goitre seemed to have been purely empirical, no definite classification with its appropriate treatment apparently having been attempted, with the exception of the iodides and iodine having been recognised as a specific. Cuthbertson found in one case that hydrastis canadensis proved efficacious in effecting a cure in a goitre of pregnancy, and this led him to the investigations which he had detailed. In each of the 25 cases of goitre of puberty and pregnancy which came under his care, a cure was effected in from six weeks to three months by the administration of hydrastis canadensis, three times daily, after eating. He was well aware that some of these cases might have got well without treatment, but he made no selection of them, taking them as they presented themselves. One of the cases which was cured by this means had been treated with iodine and the iodides and with thyroid extract, becoming much worse under both forms of treatment. Immediately on instituting the hydrastis treatment the patient began to improve and was cured in six weeks. He presented hydrastis canadensis as a new and successful remedy in the goitre of puberty and pregnancy.—*Brit. Med. Journ.*, April 26, 1902.

Treatment of Phthisis with Blue Light.

G. Kaiser (*Wien. klin. Woch.*, No. 7, 1902) writes that his attention was called to the bactericidal action of pure blue light by the fact that he was advised to treat his own hand (which showed a septic ulcer due to infection from a suppurating case) by this method. He made investigations and obtained the following results: (1) Tubercle bacilli in pure culture were killed in thirty minutes by the blue light at a distance of 5 metres, while they survived the equal illumination by an ordinary arc lamp. (2) Tubercle bacilli in pure culture were pasted on a patient's back, and the blue light was direct-

ed on to the patient's chest at a distance of 5 metres for thirty minutes; this was repeated for six days. The bacilli were "weakened." (3) Pure culture of tubercle bacilli were illuminated by a light concentrated through a hollow lens containing a solution of alum and methylene blue with ammonia; they were killed. (4) The same lens was used, and the light was split up into the spectral colours by means of a carbon disulphide prism. Cultures lived in red and yellow light, but were killed in from blue-violet to ultra-violet. (5) A photographic negative with an unused film was pasted on a patient's back in such a way that all light was excluded. The film was illuminated through the patient's body, and a blurred "positive" was obtained. Following these experiments Kaiser tested the blue light on patients. Two cases of advanced phthisis; after six days night sweats ceased and cough became less. After six weeks (up to the present) diminution of bacilli in sputum. A case of tuberculous abscesses in the thigh and knee flexion: all treatment that had been applied before (for three months) failed to do any good. Result of blue light—healing of all abscesses in four weeks. A case of "weeping" eczema in a child of "tuberculous character"; cure in five weeks. He concludes that (1) blue light kills tubercle bacilli; (2) the heat rays are excluded by the hollow lens with cooling arrangements; (3) action of the light is dependent on the distance and intensity of the source of light; (4) the light can pierce the body sufficiently strongly—only the chemical rays do so; (5) pure blue light acts strongly as a resorbing agent; and (6) blue light has a local sedative action if the rays are concentrated, and may even produce anaesthesia.—*Brit. Med. Journ.*, April 26, 1902.

Sensitiveness to Heat.

It is only comparatively recently and chiefly through the investigations of Goldschneider that some knowledge has been gained of the existence of nerve-endings in the skin which are especially adapted to receive impressions of temperature. Most of the recent text-books on physiology have a drawing showing that certain small areas are particularly sensitive to variations of temperature. These areas presumably represent the distribution of the branches of nerves of which some respond to heat stimuli, others react more strongly to cold, whilst other intervening areas are indifferent to heat and cold but receive and conduct impressions of pain. Goldschneider and Blix have tested nearly the whole surface of the body and have shown the topography of these nerves. The subject has been again taken up by Elemer Veress, an assistant in the Royal Hungarian Franz-Joseph University of Kolozsvár.

He sums up the results of his numerous experiments on himself in the following propositions: The two sides of the body do not appear to be equally sensitive to differences of temperature, the left side, taking the mean of many experiments, being more sensitive than the right. The middle region of the trunk is less sensitive to heat than the flanks, but the trunk as a whole is more sensitive than the extremities. The sensitiveness to heat-impressions in the extremities diminishes from the proximal to the distal parts, yet not regularly, for there may be areas in the distal parts that are more sensitive than in any proximal part of the limb. The lateral regions of the extremities are more sensitive to heat than those of the median surface. The pure ideal sensitiveness to heat depends exclusively upon the richness of the innervation. Looking at the subject from a practical point of view the degree of sensitiveness is partly dependent upon the thickness of the epidermis and especially of the horny layer, but also upon habit; as a result of these circumstances the precise degree of sensitiveness for each part of region of the body cannot be very exactly determined.—*Lancet*, May 3, 1902.

A New Form of an Old Fraud.

The trade in bogus diplomas in America is not dead yet, notwithstanding the efforts made to crush it, for not long ago we received particulars of a diploma shop hailing from the West which we believe to be new—at all events, it is new to us. But our attention has quite recently been drawn to a new departure which does credit to the ingenuity of our Transatlantic cousins. This time it is not exactly a qualifying diploma which is offered, but a certificate (19 in. by 25 in.) of membership of a hospital staff "St Luke's Hospital, of Niles, Michigan, capital 100,000 dols." The certificate we are told is "a beautiful specimen of the lithographer's art," and costs 15 dols. on paper, 20 dols. on imitation parchment, and 25 dols. on the real thing. This being a trifle cumbersome for every-day use, a pocket membership ticket is likewise provided which, "if judiciously displayed, will pay for your membership certificate many times over during the course of a year." For those who affect personal decoration a red cross solid gold button lettered "Staff of St. Luke's Hospital" is obtainable, and, although "very costly," goes free with the membership. A further advantage offered to members is that they will receive 25 per cent. in cash for surgical operations, which they recommend to the hospital, and 10 per cent. on medical cases. A bait thrown out to dentists is that, apparently without their possessing any medical diploma, they may be inscribed as members of the staff of medical and dental surgeons. We forgot to add that, if preferred, the diploma may be had in Latin (of a kind), and that it has two pieces of ribbon and a gold seal, "giving it the general appearance of a regular hospital medical or dental college diploma." The motive would have been sufficiently obvious, we should have thought, but it is evidently desired that there shall be no misapprehension on the subject, so that is kindly and explicitly pointed out as a final inducement. But we are a little puzzled to reconcile this very naïve

declaration with the statement to be found in another place that the qualification for membership is the possession of a diploma either in the United States or in any other country, or of a legal licence, or the actual practice of medicine or surgery for five years with registration under the Practice Act, whatever that may be.—*Brit. Med. Journ.* April 26, 1902.

Simultaneous Intra-Uterine and Extra-Uterine Pregnancy.

Simultaneous intra-uterine and extra-uterine pregnancy is one of the rarest and most puzzling conditions which may confront the practitioner. A case is recorded by Dr. H. P. Perkins in the *Boston Medical and Surgical Journal* of March 20th which well illustrates the difficulty of diagnosis. The patient was a woman, aged 26 years, who had been married five years but had been pregnant only once, when early abortion took place. A menstrual period which was expected on Nov. 30th was missed. Two weeks later there was slight pain. On Dec. 21st whilst riding in a street car she felt sharp darting pains in the right side of the abdomen. She went home in a cab and took to bed. On Dec. 24th, when she was seen by Dr. Perkins she complained only of a slight sense of fulness and pressure in the right side of the abdomen. This she attributed to appendicitis, of which she had had two mild attacks. The temperature was 100·6° F. and the pulse was 110. The right iliac region was tender and was slightly dull on percussion. The uterus was a little high, moveable and enlarged. On the right was an ill-defined, boggy mass, apparently closely connected with the uterus, extending outwards to the pelvic brim, and exquisitely tender. Pain was caused by moving the uterus upwards or to the left. It was thought that the boggy feeling in the vaginal vault was due to a hæmatocoele, the cause of which could not be determined. Most of the symptoms of extra-uterine pregnancy were absent. Immediate operation was proposed but declined by the patient. On Dec. 28th the temperature was 100° and the pain was more marked. The patient consented to an operation which was performed on the 26th. On opening the abdomen from 20 to 30 ounces of fluid blood and clots escaped. A mass of adherent tissue was broken through and the bleeding point was found in the right Fallopian tube, which was enlarged and ruptured close to the uterus. The broad ligament was infiltrated with blood. The ovary was considerably enlarged and was cystic. The portion of tube involved was less than half an inch from the uterus. Care was taken not to disturb the uterus which presented the appearance of an early pregnancy, but owing to the friability of the tissues the ligature securing the tube had to be placed practically in uterine tissue. The vermiform appendix which was adherent to the ovary, swollen, and congested, was removed. The patient rallied promptly from the operation. On the sixth day pains and hæmorrhage from the vagina began. Next day the uterus was dilated and curetted and the remains of an eight weeks' ovum were removed. Recovery ensued.—*Lancet*, May 3, '02.

Are Safety Matches Poisonous ?

A somewhat curious anomaly exists in regard to the manufacture

of Swedish safety matches. To comply with the law which disallows the sale of any drug of the slightest claim to toxic properties without a doctor's prescription, matches containing free yellow sulphur must not be manufactured for home consumption. For export, however, they may be produced to an unlimited extent. Naturally, the composition of the safety matches has given rise to much controversy. C. Th. Mörner found that with phosphorus sesquisulphide Mitscherlich's test gives more or less positive results, although no free phosphorus is present. When he administered 2 to 3 grams of the sesquisulphide to dogs there was slight loss of appetite for some days, but nothing more. With rabbits 2 grams caused death in twenty-four hours, 1 gram in forty-five hours, and 0.6 gram in forty-six hours. This, of course, could not be due to the phosphorus itself, but rapid oxidation of the phosphorus and sulphur to phosphoric and sulphuric acids probably caused a mineral acidosis, to which these animals are particularly prone. Mörner himself took 12 milligrams one day, on the next day 30 milligrams, and two days later 120 milligrams, without experiencing any symptoms of poisoning. Other workers have observed toxic conditions and death from very small doses of the sesquisulphide. Santesson has lately worked out the whole question. Employing solutions of the ends of matches in toluol, gum, milk, liquid paraffin, and coffee, both cold and hot (to develop, if possible, any free phosphorous), and administering the same by the mouth through a catheter directly into the stomach, or subcutaneously to both frogs and rabbits, he was unable to obtain any loss in weight or toxic symptoms. Personally, he took 0.5 gram, and 1 gram of dry match ends, the former carefully ground up, and then boiled in starch solution, the latter suspended in coffee. There were no resultant effects, except marked diuresis during the following twenty-four hours. Each match-end contains about 5 milligrams of the sesquisulphide, so that about seven boxes, or 500 matches, were necessary to provide the dose of 1 gram. From these experiments it is fair to conclude that neither the phosphorous sesquichloride, nor the composition mass used in the manufacture of safety matches, is poisonous. The latter contains chlorides, chromates, and potassium as well as the sesquichloride. It would have been of interest to know the rate, extent, and manner of the phosphorus excretion in the human experiments. In the case of rabbits, Mörner found the usually alkaline urine and peritoneal fluid "acid," and inferred the rapid and thorough absorption of the drug. Examinations of the faeces and urine in experiments similar to those of Mörner and Santesson would be indicative of any possible effects following continued or cumulative doses, and perhaps suggest prophylactic measures for the use of the workmen employed in the manufacture of such matches.—*Brit. Med. Journ.* May, 3, 1902.

Anopheles and Malaria in India.

The sixth series of the *Reports to the Malaria Committee* of the Royal Society contains three reports by Dr. J. W. W. Stephens and Mr. S. R. Christophers which are each of interest. The first report

is on the Relation of Malarial Endemicity to Species of *Anopheles*. The authors have taken a series of observations in a northerly direction from Calcutta to the foot of the Himalayas, a distance of 300 miles, which show that in passing in this direction they pass through districts in which the species of *Anopheles* vary and the "endemic index" also varies. They define the "endemic index" as the figure representing the proportion of children under 10 years of age who harbour parasites of malaria. As a complementary method they advocate the determination of the proportion of infected *Anopheles*. This, they state, gives the actual risk of infection in a district. The number of infected *Anopheles* would probably be a more accurate guide. A point of particular interest is the confirmation of previous observations that *Anopheles Rossii* does not carry either the parasite of benign or of malignant tertian fever, and in Calcutta, where this was the prevalent *Anopheles* and occurred in large numbers, the endemic index of malaria was zero. In other districts, where *Anopheles Christophersi* was present, the endemic index varied from 40 to 72 per cent., and 4 out of 64 specimens of this species were found to harbour sporozoites. The second report is on the Biology of the Species of *Anopheles* found in Bengal. Six species in all are considered, and of these *Anopheles Rossii* was the most widely distributed. In habits the different species varied. *Anopheles Rossii* is a foveal species, and can breed in foul water, whilst *Anopheles nigerrimus* was found quite apart from human habitations and only bred in marsh water. The observations on the natural enemies of mosquito larvae are of great interest, and it is to be hoped that similar observations on an extensive scale will be made in other countries. The larvae were devoured more rapidly by some species of fish than by others; insect and beetle larvae also devoured them, but tadpoles did not. The third report will excite more general interest. The subject is the Relation between Enlarged Spleen and Parasite Infections. The main observations are, as the authors state, not new, but the conclusions arrived at are not generally admitted, particularly in India, where the "spleen test" has been relied on as the test of the prevalence of malaria. The authors formulate four conclusions. First, that a high endemic index may exist without an appreciable spleen rate (Africa). To this conclusion exception can be taken as the spleen rate as well as the endemic index is high amongst the native children in Africa. The second conclusion is that a high spleen rate may exist in adults without a corresponding parasite infection. The third is that in India the spleen rate amongst children is a fair indication of the parasite infection. This we consider might have been made more general, as it applies also to Africa. The fourth conclusion is that the spleen rate increases with age, and may be high when the parasite rate is nil. To this exception should have been made in the case of the African negro as in that race splenic enlargement is rare when the parasite rate is low. These reports are clearly written and concise. In some instances the number of observations might have been larger with advantage, but in the main the evidence adduced warrants the important conclusions drawn.—*Brit. Med. Journ.*, May 10, 1902.

CLINICAL RECORD.

Foreign.

CASES BY DR. FREDERICK KOPP, GREENWICH, N.S.W.,

ILLUSTRATIVE OF BENEFITS FROM APPRECIABLE DOSES.

CASE 1. *Catarrhal Ophthalmia, cured by Euphrasia.*

In a case of the above (a young man) there were the following symptoms: Sensitiveness to light, an abundant watery secretion, pricking pain in the left eye (aggravated on moving the lid), a sensation as if there were sand in the eye, a great sensitiveness of the membrane to cold air, bright redness of the conjunctiva, and a secretion of mucus gluing the lids together in the morning. The patient had been using a weak *Belladonna* lotion, taking the remedy internally at the same time, but without effect so far as a cure, or even an amelioration of the symptoms, was concerned. On seeing the condition that the eye was in, I immediately thought of *Euphrasia officinalis* as the remedy most likely to meet the case. I thereupon ordered the patient to make use of the following lotion, to be applied to the affected eye four or five times a day:—

R. *Euphrasia officinalis* ℥ ʒiii.

Aqua dest. Ad ʒvj.

while a tablespoonful of the following was to be taken three times a day:—

R. *Euphrasia officinalis* 1x ʒjss.

Aqua dest. Ad ʒviii.

The effect of this treatment resulted as I expected, and the inflammation soon left the eye, to the patient's great delight, as well as my own. In less than a week almost every trace of the complaint had disappeared. I have on several subsequent occasions found *Euphrasia* of priceless value in catarrhal ophthalmia and conjunctivitis.

CASE 2. *Epistaxis, cured by Ferrum Iodatum.*

This was the case of a little girl, seven years of age, of dark complexion and slightly anemic. The symptoms were that the epistaxis would come on suddenly without any apparent cause, and continue for a considerable length of time. *Hammamelis virginica* ℥, *Mellefolium* ℥, *Aconitum napellus* 1x, and *Belladonna* 1x had each been tried in turn, but without success. Owing to the frequent attacks, and the excessive loss of blood, the little patient was beginning to suffer in health, and her appetite also became very meagre. The following prescription was then administered:—

R. *Syr. Ferrum iodatum* ʒijss.

Aqua dest. Ad ʒiv.

ʒj three times a day after meals.

The effect was very remarkable. After the third day's treatment the attacks of epistaxis were less frequent, and the quantity of blood lost had diminished considerably. The medicine was continued, and, after six weeks' treatment, the patient had no further attacks, and her health was also much improved. A few years later the patient was again similarly attacked, owing to having received a violent blow on the nose through running down an embankment and coming into

collision with the rail of a fence. The same remedy, alternated with *Arnica* 1x, was again successfully administered, an *Arnica* lotion being at the same time made use of externally. It may not be out of place to state here that the little girl's mother suffered similarly in her childhood, the latter having a consumptive tendency, inherited on her mother's side. In the above case *Ferrum iodatum* was prescribed, owing to this fact, and also to the anemic symptoms present. —*Homoopathic World*, May 1902.

CASES BY DR. MARGARET E. BURGESS, M.D.

Philadelphia.

Case 1. Mrs. A. M., one of my patients, while spending the summer in a malarial district in Connecticut, was stung by bees, the attending swelling and pain being very severe. In the course of a few days the following symptoms presented themselves:

Chills, anticipating, every other day, ushered in with blue nails, cold hands and feet, headache and nausea; beginning in the feet and extending over entire body but most pronounced in the hips and reproductive organs; > by being surrounded with hot water bags. Nausea and retching but inability to vomit, attended with faintness > by ice water; duration of chill one hour, during which there was a sensation as if falling and desire to be held.

Heat most intense in the abdomen and attended with a dry painful cough and frequent urging to urinate, the urine being "blood red."

Sweat most profuse about neck and waist.

Following paroxysm, great prostration, "so weak could hardly lift head."

During all the stages headache, and the surface of the body was so sensitive to contact that the slightest touch would cause her to shiver and groan.

Conjunctiva yellow, eyes glittering and sensitive to light.

The jar of any one walking across the floor was unbearable. As the patient was being treated by mail the symptoms were obtained piece meal and several remedies were prescribed without benefit. Finally Apis. 200 was given with immediate improvement, a repetition being necessary four or five days later when a relapse occurred.

In connection with this case two queries have arisen in my mind:

First, did the bees inoculate the patient with the malarial poison?

Second, was Apis curative because it antidoted the sting of the bee?

Case 2. Mrs. G., aet. 28, sanguine lymphatic temperament, evidently weighing in the neighborhood of two hundred pounds; left California sixteen months ago, at which time she was menstruating, but the catamenia have not appeared since, a profuse yellow leucorrhoeal discharge coming regularly once a month, the breasts being painful and indurated. For three months has had a "hard cough" with difficult expectoration and profuse perspiration. Feet burning, vertex hot. Under graphites 33m a normal menstruation began in four days and cough and attending symptoms gradually disappeared.

Case 3. Mrs. J., very rapid labor, child born before my arrival, but just as I entered the room a great gush of bright red blood. On introducing my hand into the vagina felt the hot blood coming from a partially detached placenta. Belladonna failed completely, as did other remedies. As soon as the nurse removed her hand from the abdomen through which she was holding the uterus the bright blood would gush as before, even after the placenta was expelled; this continued for five hours. I then gave Sulphur 20m and the powder had not more than dissolved on the tongue when the nurse exclaimed, "Oh, doctor, that is a great deal better, the uterus is contracting well now."—*Medical Advance*, May, 1902.

CASES OF MALARIOUS FEVER.

By G. D. LOCLIN, M.D., Pontoir, Ill

Case 1. Male, 38 years, strong, engineer on river boat, has had chills for months, has taken quinine enough to kill a dozen men, he says, 30 to 60 grains per day; had little, if any, effect upon him. Chills, fever, sweating stages marked. All symptoms point to malaria of long standing. Spleen enlarged, chills every other day. I could not give him quinine. I gave him na. mur. 30x. No results. Nux vomica 3 x. No results. Eucalyptus tincture. No results. Finally I asked him if he could not think of some symptoms he had not told me. "Well," he said, "There's one thing I did not think was worth telling, but the chills begin between my shoulders." I told him to stop all medicine and come next day. I found that capsicum was the drug. And when he came again he got capsicum, 3x. He had no more chills. But a few days after he came in with a bad case of supraorbital neuralgia. I came to the conclusion that it was but another symptom of the infection. No drug I could find seemed to have any effect on the pain, but electricity did.

Case 2. Man, laborer, strong, chills for eighteen months. One symptom brushing tongue with hand. Asked why he did so, said felt all the time like a thread on it. Prostration, chills in A.M. at 9 or 10. Na. mur. 30 x. cured. That quinine will in large doses destroy the plasmodia in the blood cannot be successfully contradicted, neither do we attempt to contradict. I am confident that quinine may be indicated in malaria. But will not other drugs destroy the plasmodia in the blood? Will not arsenic destroy the plasmodia as well as quinine? And I think it as good as prophylactic. Arsenic has become a drug of wide use in malaria by both schools of medicine. It should only be used when the cachexia is well established with anemia, great debility, difficulty of breathing, dropsical tendency, neuralgic affections, prostration, great thirst, fear of death. Na. mur. in the higher attenuations, great emaciation, prostration, sallowness, dryness of skin, mental depression and tendency to intermittent pulse. Hard chills at 10 or 11 o'clock A.M. with great thirst. Eupat. perf. and purpureum, gels., nux vom., cedron, ipecac, may all be useful.—*North American Journ. of Homoeopathy*, May 1902.

Gleanings from Contemporary Literature.

BRITISH HOMŒOPATHIC ASSOCIATION AND THE TWENTIETH CENTURY FUND.

A meeting was held on Friday, April 25th, in the Hall of the Stationer's Company, Ludgate Hill, London, E. C. to consider a plan for the extension and development of Homœopathy in Great Britain, and the establishment of a "Twentieth Century Fund" for that purpose, The Rt. Hon. The Earl Cawdor in the chair. The attendance was large and influential.

The Chairman: Ladies and Gentlemen, there are only a few words which I need occupy your time with before I go on to ask those to address you who can speak with more knowledge of the subject than I can hope to. But perhaps you will expect me to say a word or two as to the object and aim of this our meeting, and the reason for it having been called. I think all those who have studied homœopathy, certainly all those who have taken an active part in homœopathic work, have for a long time felt that if the homœopathic cause, and the interest in homœopathy, is to be pushed and done justice to, it has been for some time necessary that there should be some permanent central organization for effective purposes. There is a great deal of homœopathic interest and skill scattered throughout the country; but what has been felt is the need of this work being done from some central organization which can touch all the districts where homœopathy is studied, so that we may be in a stronger position than we have been before. There are other matters, too, that require consideration, and that also require help. I think everyone is satisfied that there should be more study of homœopathy, that more able men should be free to study carefully the problems of homœopathy, and all things that affect it. It is impossible that a man in heavy daily practice can give his mind to quiet scientific study. I do not believe that for effective purposes it is possible for a man in heavy practice to give his mind fully enough to subjects of scientific research to make that research very effective. We should like to be able to free certain people who are very well able to deal with these subjects, and to give them an opportunity to benefit the community in the matter of therapeutic and scientific research, which they will be very well able to carry out if they have the leisure and time. And that leisure and time of course means money, a relief in that respect to those who have to earn their living by ordinary practice. I think it was in October last, that the British Homœopathic Society took this question up and had it under their consideration. I understand they came to the conclusion that they would endeavour to institute a movement for the development and extension of homœopathy all through Great Britain. I am very glad that the British Homœopathic Society has taken up the subject. I am sure the able men at the back of the movement will help it through if it can possibly be done. If we study what has been done in America, we shall find that Americans have gone ahead in homœopathic research and in practice more than we have in this country; and perhaps we may take a leaf out of the book of our friends across the Atlantic, and see if we cannot do something in a direction in which they have succeeded very considerably. (Hear, hear.) Since the meeting of the British Homœopathic Society, a pamphlet has been sent out and circulated through the country, describing the necessities of British Homœopathy, and suggesting some scheme for its extension. I do not propose to attempt to go now into the details of that scheme, because there are others who can speak better than I can upon the subject. But I touch upon it simply in order to say that it is one of the points upon which we shall hope to get some definite and clear information

this afternoon. The committee have been much encouraged by sympathisers with the movement, and I think we may say that the outcome of that committee meeting is the meeting which we have here to-day. This meeting is one of the friends of homœopathy, those who practice it, and those who have—shall I say suffered under it, or those who have benefited by it? (Laughter.) There are very many who can claim to have benefited by it, and we shall be glad to extend to others the benefits that we ourselves have received. (Hear, hear.) Therefore to-day we want this meeting to consider and decide upon details of the organization, and to endeavour to form some plan to raise a permanent fund for the extension of homœopathy throughout the country. I am very much obliged to those who have allowed me to preside to-day, because I take a deep interest in homœopathy and its work. I do not profess to know much about it, except what it has done for me, and after all perhaps that is not the worst form of faith. (Applause.) I hope the result of our meeting will be something practical, that we may get together a good strong committee, and that we may be able to raise funds, which will enable us to move steadily and progressively in the direction we all wish. (Applause.) I will now call upon Dr. Burford.

Dr. Burford: My Lord, Ladies and Gentlemen, not the least of your lordship's important public services to homœopathy is your presence in the chair at this meeting this afternoon. If any further cogent proof were necessary of the importance of this occasion it would be found in the distinguished gathering that we have here, which, whether as speakers or as auditors, are animated by one common desire for the extension and development of homœopathy in Great Britain. Homœopathy in this country has passed through many and various phases, some of them times of stress and trial. But homœopathy, being a sturdy plant, has survived to this day. There comes, my lord, in the history of institutions, as well as of individuals, from time to time, epochs of crisis, or at all events epochs of paramount importance, when all misjudgment or dilatory action may go far to wreck what otherwise would have fair prospects on account of previous years of careful upbringing. Those who have noticed the signs of the times say that for some such important juncture as this, we, as British homœopaths, have to legislate to-day. Since the introduction of homœopathy into England seventy-five years ago, the voluntary work performed by homœopaths throughout the country has been enormous. They have erected a round dozen of hospitals, and the characteristic feature of all these, with one exception, is that since their institution they have, with that single exception, been added to, or extended or increased, and in some cases re-built. That is to say, homœopathy in England, as far as hospital work goes, is progressive. But besides this hospital work it has produced a very substantial body of technical literature, a literature which, in scientific value, is second to none of that which has been written on the same subject. We have also a very respectable journalism, with able editors, who, as Carlyle said, keep going the internal life of homœopathy by the periodicals which they conduct. Then again, I maintain that the services to the State of British homœopathy have been very considerable. If one considers and bears in mind the value to the Commonwealth of the lives of the people, important people in this country, who have been restored to health, and whose brain power has been given to the community again by homœopathy, and the scores, tens, and hundreds of thousands of lives of workers whose illnesses have been abridged and days have been added to, and who have been restored to the great army of the Commonwealth, and when one considers further that during the last seventy-five years all that has been wrought, one must admit that homœopathy has been of considerable service to the State. (Applause.) Finally, so far as what we call new drugs are concerned, it has been the province of homœopathy

to provide these for itself, but also for the other branch of the profession, of whom it may often be said they have reaped where they have not sown, and have gathered where they have not strawed. One might perhaps think of the condition of British homœopathy at the present day as a newly unfolding vigorous organism, expanding under fair influence, and requiring nothing but fair conditions to enable it to occupy that position which its inherent virtue would determine for it. But this is not an accurate state of matters. We are told by those who should know that, as a matter of fact, homœopathy at the present time is working under unfavourable conditions of stress and tension, and its sphere has become more circumscribed in an enclosed circle, and that, cribbed, cabined, and confined as it is at the present time, unless some new departure is taken, we shall drift into an *impasse* from which we shall not be able to break away. In this lies the seriousness of the crisis which we ask you to consider this afternoon. Our progress is limited by disabilities. In the first place, in homœopathy we have no systematic teaching organization; we have no professors, no tutors, no readers, no demonstrators; nothing, in fact, that will convey systematic, and constant, and consecutive teaching such as all the sciences now require. What would be said of the great science of engineering if people had to pick it up as best they could, supplemented by the study and reading of books? But yet this is the kind of thing to which you condemn your homœopathic advisers at the present time. We have no academic attractions or posts to offer to those, particularly amongst our junior practitioners, whose gifts are specialised in the direction of teaching. We have to condemn them to the ordinary drudgery of daily practice, when we could turn their special gifts and qualifications to better account. We have no arrangements for original research of any kind for the discovery and investigation of points of interest and importance in the sphere of medicine in general, and in our own practice in particular. These are matters which have laid an embargo upon homœopathy in this country. But over and above these—and I think you will sympathise with this on public grounds—we have no legal power to aggregate, or examine, or qualify men in our own therapeutics. It is as though it were an essential qualification for a clergyman of the Church of England that he should have practised in the Church of Rome, or that he should have some practical acquaintance with the functions of a Cardinal before he can be established in charge of a parish in the Church of England. (Hear, hear.) Ladies and Gentlemen, the thing has only to be stated for the absurdity of the position to be at once apparent. (Applause.) We have no *locus standi* in civil practice, or in professional representation. All the great Departments of State requiring medical advice, or which have commissions to bestow, pass homœopathy by with stony indifference, just as if it had no existence. And as far as representation on the General Medical Council is concerned, we take it that it would be a work of supererogation to apply to them for that fair representation which, in a scientific parliament, we should naturally look for. We are, so to speak, *ultra vires*. Again, we have no endowment, or fee or subsidy of any kind for lectureship, or research work, or scholarships. And when we read of the enormous sums subscribed for investigation into the cause and cure of cancer, and into the cause and cure of tubercle, one reflects with some humility that a very much smaller sum would suffice for our needs, and that we should be far better able to deal with cancer and tubercle in our branch, than our friends of the other school, if we had the enormous financial backing which has been showered upon them, but denied to us. (Applause.) We have no special propaganda of any kind setting forth our own views and position. After some acquaintance with the heads of the profession in general, I have been amazed often at the abysmal ignorance

which is apparent amongst them with regard to the views we hold, and our practice. Any bizarre, or weird, or improbable story is thought good enough to explain homœopathy, and usually the denser the ignorance of the person on the matter, the more facile is his explanation of that which he has never taken the trouble to investigate. (Applause.) I do not believe, speaking for members of my own profession, that one would call this sort of thing original sin; it would rather come under the heading of original ignorance, (Laughter), which is quite as bad as the other. And we shall take it as a duty upon ourselves that, as soon as possible, with your kind aid and assistance, we hope to put before our colleagues a clear, concise, and, what is much more important, an accurate statement of what we believe and what we do. Thus, Ladies and Gentlemen, you will see that our difficulties are educational, they are political, they are financial, and that is the triple problem that confronts us to-day. Our disabilities are acute, and they are growing so acute and so fast that we feel we cannot with any satisfaction, go on much longer in the old ways. We feel that we must in some way find new means, new agencies, and new potencies, to meet the stress of the situation. For the removal of these disabilities we require the combined interest and work of all, patients and doctors alike, in the progress of medicine, and in the welfare of humanity in general. We want the freedom to work out our place and our position in this Twentieth Century; that freedom professionally which we do not at present possess. We want improved educational apparatus. Even our opponents would bless this desire on our part; they would welcome it as a search for light; and if we are in the wrong we shall be able, sooner or later, to acknowledge it. If we are in the right, so much the better. But there is no man or woman of education who would not willingly confirm the desire even in an opponent, to pursue intellectual work, so as to be of more service to humanity at large. We would therefore further original work in our department of healing. No man can do well two things at the same time. He cannot be engaged in the anxieties of caring for valuable human lives, and at the same time turn his attention to investigations and researches in science. These are the necessary complements in the art of medicine. We are well developed in the former; we want an additional infusion of the latter. We want the sinews of war, even a war of peace, in order to give us the means to develop. For the carrying out of our programme of a forward movement we require such an association, a bond of union of men and women similarly minded, national in its extent, for it is national work to which we set ourselves. This bond of union shall be in season and out of season, a visible sign of the cause of homœopathy in Great Britain. I trust my thesis for the Homœopathic Institution has been made out. If there was a clear call to action and a mission to carry out, we have it, and we only want the moral force of union, and the material force of finance to play a more useful part in the service of the State and the welfare of humanity. (Applause.) I beg to move that an Association be formed, to be called the 'British Homœopathic Association,' for the development and extension of Homœopathy in Great Britain in general, and in particular for the creation and endowment of lectureships, the provision of the means for original research, and the dissemination of a knowledge of Homœopathic therapeutics among the medical profession."

Mr. J. P. Stilwell (Chairman of the Board of Management of the London Homœopathic Hospital): My Lord, Ladies and Gentlemen, it is about 100 years ago that homœopathy was first discovered. Dr. Burford has mentioned seventy-five years ago as the time at which it was introduced into England. Dr. Frederick Foster Quin stood alone in England as the introducer of homœopathy into England. It very soon became evident to those who were brought into contact with him that there was a science and

system superior in all ways to the then medical profession as expounded by the legitimate professors of the science. He got round him a number of eminent men, and the result of that was that they founded a society which they then called the British Homœopathic Society. It very quickly acquired large numbers of Fellows, and the Society set to work in the first place to form a library. Secondly it set to work to publish transactions; and thirdly, to issue works on the homœopathic treatment of disease, and to establish a hospital. That hospital was established in Queen Square in the year 1847. It was a small house, and no great progress was made up to the time when the late Mr. Marmaduke Sampson proposed the formation of a lay association to assist the British Homœopathic Society by the active co-operation of laymen. That is what I apprehend Dr. Burford would have us inaugurate now. Here we are met together for the purpose of getting lay help for medical science; or obtaining the help of laymen, who are more interested, I apprehend, than the doctors themselves, because we are those who are benefited by homœopathy; the doctors are only those who dispense it, and I apprehend that the man who receives benefit from homœopathy is a much happier man—except that there is a pleasure in doing good—than the man who cures him. (Hear, hear.) The British Homœopathic Association in thirteen months numbered 1,300 members, and I do not see why, in the same time, we should not be able to do that, and to far surpass it. I think we ought to surpass it, and that we shall if we only put our shoulders to the wheel. The Duke of Beaufort was the President of that institution, and there was Field Marshal The Marquis of Anglesey as Vice-President. You will all agree that in our President and Vice-President we are happy. With the co-operation of the laity progress began. On the 10th October, 1849, a Homœopathic Hospital was inaugurated by the British Homœopathic Association in Golden Square. Then, after the old one was found too small for the needs of the patients, the new hospital was opened in Great Ormond Street. That continued, I think, for about fifty-six years, and within its walls patients were treated in the old building. That was pulled down, and the new hospital opened in 1895. Her Royal Highness Princess Mary Adelaide, Duchess of Teck, was at the opening, and the building cost the sum of £42,000, besides other things which were added afterwards, making up the total £48,000 in round figures. As to the extension of homœopathy, the work of homœopathy, as shewn in theory and practice, kept pace with the development of the science. The first years of the new century see the birth of, I hope, a new era for British homœopathy. The policy of therapeutic quietism must be abandoned. It is acknowledged that the policy of self-obliteration will not cause homœopathy to prosper. The President of the British Homœopathic Society has spoken, in his inaugural address, of this matter, and there is a determination to inaugurate a Twentieth Century Fund which has as its object the extension of the homœopathic belief and homœopathic practice in England, to make known to Englishmen the truth of homœopathy, and counteract the unmanly policy of the allopathic wing of our profession.

If we can get this we shall ensure a steady flow of students, and we can respond to the call for homœopathic medical men—physicians and surgeons—for whom the demand in the provinces continues to grow. Death has removed a great many of our supporters, and it is absolutely necessary that we should bring into our net new men who will assist us in the work which is before us. And in recommending this resolution to your notice, my Lord, and Ladies and Gentlemen, I would say that homœopathy is essentially the medicine of the poor. Those who are depending upon their daily labour for their food must know that it is important if they get sick, that they should be restored to health at the very first possible moment.

And here is the difference between homœopathy and the other side of medicine : that homœopathy cures more quickly and more certainly, and that there is nothing to recover from the treatment, as there very often is in the other systems of medicine. (Hear, hear.) That being the case, I think you will see how important it is that this resolution which has been placed in my hands to support and second is worthy of being carried out. (Applause.)

Mr. Knox Shaw : My Lord, Ladies and Gentlemen, I have not very much to add to what has already been said in support of this resolution, but I think I may say a few words, as the subject is a very large one, and yet not go over ground which has been already so ably trodden. Now, one of the great difficulties which must be apparent to the layman—I am speaking now of non-medical people—is in securing, when necessary, the advice of a practitioner qualified in homœopathy. This is a subject which has been brought to my notice a great many times, and very bitter complaints have been made as to having once become a homœopath and therefore having, shall I say, learnt wisdom and also learnt the benefits of homœopathic treatment, that there are occasions if they move their residence or go into certain districts when it is impossible almost to find a homœopathic doctor. That is a question which concerns lay people as well as the medical profession. For some years past—I may say for the last fifteen years—we have been preparing the way for alteration in this. Our difficulties have been that we have not had the means of teaching homœopathy as it should be taught. We have now a hospital which I am proud to say we who are attached to it believe to be second to none. (Applause.) We have there now every opportunity of teaching if we have the means to teach. Now, it has often been said to me in a light and airy way—I say light and airy, because those who make these remarks do not appreciate in the least degree the enormous difficulties of the question—“Look at America ; see what a large number of colleges and qualifying bodies there are in America. Why cannot you do something similar to that in England ?” Well, as I said before, the difficulties are immense. The difficulties are political and financial. By political difficulties I mean medical politics. Unfortunately, we are considered to hold a heresy in medicine ; and like all those who hold heresies, we are received with a good deal of opposition by the so-called orthodox school. In England we are a conservative country, and it is almost a matter of impossibility in our present position to found a university for granting degrees. Therefore we have to do the next best thing we can, and at present our difficulties are those of finance. Unfortunately amongst the whole body there has not yet arisen a Carnegie to do for us what Carnegie has done for Scottish education in Scotland, or a Cecil Rhodes to do what Cecil Rhodes has done for us in Imperial education at Oxford. Still, we are hoping that with a strong combination of people who expound homœopathy, and those of the public who believe in it and receive its benefits, we can do as a large body what a millionaire can do with his one stroke of the pen. This Association we believe is on the lines to conduct and carry out this particular sort of work. We want a sufficient sum of money to enable us to educate the medical profession. We believe we may be able to educate them in two ways. We can bring to them the means of knowing what homœopathy is, and so counteracting what Dr. Burford calls the abysmal ignorance, when they have once passed the examining body and become fully fledged ; and also in attaching to the various hospitals and dispensaries of the country young men who will look into the subject and see exactly what homœopathy is because it has really only to be looked into and seen to be established. We also labour under a great difficulty in that the General Medical Council,

which insists upon the direction of the medical education of the country, entirely neglects amongst its duties the teaching of the science of homœopathy, possibly because in the present chaotic condition of ordinary medical therapeutical science they may not think it scientific; they may consider it to be, as it is the fashion of the day to regard it, as the chemical construction of tabloids and not worthy of further consideration. Still, we are anxious to make good that particular deficit in the medical education of the present day, and we believe that such a sum of money as may be entrusted to the committee will be wisely and judiciously spent. (Applause.)

The resolution was carried unanimously.

Dr. Dyce Brown: My Lord, Ladies and Gentlemen, I have great pleasure in proposing the following resolution: "That this meeting nominate as officers of the Association for the ensuing year the following noblemen and gentlemen: President, The Earl Cawdor; Vice-presidents, The Earl of Dysart, and Lord Calthorpe; Treasurer, Joseph Howard, Esq., M.P." This is a short resolution, but it is a very important one. As we know, any army may be a first-rate army, full of vigour and courage and ready to do anything and carry out any orders successfully when they get the opportunity but the Generals are essential. Without the Generals an army cannot work successfully, and therefore it is that this kind of resolution is a very important one, and I have great pleasure in proposing the names of these noblemen and gentlemen. Lord Cawdor's work for homœopathy and for the hospital we all know. He is exceedingly active in promoting the interests of the hospital, and without his aid I do not know how the hospital board of management would get on. Lord Dysart, as most of us know, has shewn a very great interest in the propagation of homœopathy, giving largely and offering large sums, which have not always been utilised, and shewing his interest and belief in homœopathy and his wish to have it spread as largely as possible by every means in his power. Lord Calthorpe has shewn his great interest in the cause by accepting office on the board of management of the London Homœopathic Hospital. His Lordship is very often in the country, but whenever he is in town he makes a point of coming to the meetings at the hospital, and he would have been with us now if he had been in town. Mr. Joseph Howard, M.P., will be an enormous acquisition to our strength. It does not need any words of mine to convince you that Mr. Joseph Howard will make an admirable treasurer. Therefore I have great pleasure in commanding this resolution to you.

Sir Robert Hunter: My Lord, Ladies and Gentlemen, it gives me much pleasure to second the resolution which my friend Dr. Dyce Brown has just moved. If I may say one word upon the main question which brings us together to-day, it is that I am sure that anyone who has practical experience of the homœopathic treatment will desire that opportunity should be given for its practice on a larger scale, and under such circumstances that the results may be made known to the world. (Hear, hear.) It has always appeared to me that the attitude of the medical profession towards homœopathy has been very similar to the attitude of the theologians in the Middle Ages towards those who differed from them on the particular dogmatic teaching of the time. The doctors of theology in those days did not discuss difference of opinion with their opponents; they first called them names, and then they burned them if they could. (Laughter.) The medical profession at the present day has not been burning the adherents of homœopathy, but it has taken great pleasure in calling them bad names. Yet, if I am correctly informed, the Founder of homœopathy only did what all pioneers in modern science have done; he first collected a number of facts and then he hypothesized a law to explain those facts. One would

have thought that the members of a learned profession would have welcomed suggestions of a law regulating therapeutics for observation and experiment, if not for immediate adoption. But so far from doing that, they seem to have resented the very suggestion that there could be any such law, and they seem to have treated all those who held a contrary opinion as unfit to associate professionally with their brothers in the healing art. And this is the more extraordinary because a vast field of knowledge and enquiry is common to both branches of the profession. (Hear, hear.) The human frame, its constitution and functions, the ills to which it is heir, all these matters are subjects of investigation and consideration which are common to both branches of the medical profession. The treatment of disease, and the diagnosis of cases, and the whole area of surgical art is common to both branches, and it is only when one comes to the question of the operation of drugs that one party holds, as I understand, that there is a law regulating the operation of drugs, and another party which holds that there is no law at all. Either the one party or the other may be right, but it is singular that it should be attributed as a virtue to hold the one opinion, and a crime to hold the other. There are one or two facts which have always seemed to me to be significant of the future of homœopathy. If I am not mistaken, Dr. Hahnemann was persecuted in his own day, not on account of the law which he suggested as controlling the operation of drugs, but because he denounced bleeding as an infallible remedy for nearly every complaint. The medical profession as a whole, however, has adopted his view with regard to bleeding, and the practice of it has entirely gone out. Is it not possible he may have been equally right with regard to his suggestion as to the operation of drugs? Secondly, despite the treatment which it has received at the hands of the medical profession generally, homœopathy has not only advanced in the number of its own adherents, but it has, I believe, revolutionized the practice of medicine amongst the other branches of the profession. (Hear, hear.) We all know what that practice used to be. Those of us who have the misfortune to remember many years know much better than those who are younger. The practice was to take several very powerful drugs, probably poisons, in great quantities, the doctor mixed several drugs together and left them to fight it out in the body of the unfortunate patient. All that has now been altered. Drugs are now given by the allopath branch of the profession in small quantities; they are scarcely ever mixed, and, if I am not incorrectly informed, that branch has also adopted some of the most generally known and valuable homœopathic remedies; it has blessed them and received them into its practice, although it does not bless or receive into its community those who have been instrumental in introducing them. The particular resolution which I have to second needs no commendation from me. It is a subject for congratulation that names of such distinction should have been found as those of the first Officers of this Association. In particular I think this meeting may congratulate itself on the fact that the President of the Association is to be a nobleman of the distinction and the great business ability of Earl Cawdor. (Applause.) The chairman of one of the greatest railway companies of the United Kingdom will bring to the services of the Association that knowledge of men and affairs, and that judicious judgment and tact and skill which he has acquired in the difficult world of railway commerce. I am sure we are equally to be congratulated in the other names which are before you, and I have great pleasure in seconding this resolution. (Applause.)

Col. Clifton Brown: My Lord, Ladies and Gentlemen, I am afraid that the gentlemen who have induced me to support this resolution can be no very great friends of yours, but I must ask you to listen patiently for a few

moments to my remarks. I rise with some pleasure to support the resolution which has been proposed and seconded. And the ladies will excuse me if I put the remarks I have to make like a subject which must be under two heads and an application. The first head is connected with the officers who have just been proposed to you ; and I only add my testimony to the words which have already fallen from previous speakers. I rejoice that we have Lord Cawdor to be your chief head in the future. I can remember ten years ago when we had a Jubilee dinner for the hospital, that we sat down to that dinner with about £5,000 deficit, and we came out of it with something of a surplus. I ventured to say it was owing to the magic wand of our present chairman to-day. He contradicted me, but I believe there was a good deal of truth in it, and I am anxious that we should continue with him as the head, in order that he may use the magic wand again to produce funds which we require upon this occasion. In answer to those gentlemen who have put upon me the penalty of addressing a few words to you, I may say that I will gladly give them £100 for this fund if they will not ask me to speak again on these occasions. (Applause.) Again, there are two other noblemen on this list whom I should like to refer to. The world is large, and I do not think I know them personally, and they come from a House of which it is said the members do not do much work and that sometimes the work which they do is not of the right sort ; but I am sure of this, that those names appearing on this list, recommended as they are, are the best names we can find for Vice-presidents of this Organisation which you are forming, and I cordially and heartily support their election on this occasion. And now for the second head. I suppose I am asked also to say something on behalf of your work, which is the spread of homœopathy, as I understand it, all the world over. (Applause.) I cannot do much more than refer to personal matters, which are not always very nice perhaps, but it has been my good fortune and my happiness to bring up sons that have served in Africa for these three years, and those years in the trying time of this country's need and even in China, and in other places, and they have succeeded beyond all my expectations, and I put it down myself to their being brought up on sound mother's milk and to good homœopathic medicine. (Laughter and applause.) I am often asked whether, if there came a case of necessity in my life, or the life of any members of my family, I would not desert homœopathy and call in an allopathic doctor. Well, such has never happened to me yet, and I have already come to three score years and more, but I should look upon it as the direst calamity of my life to have to call in an allopathic doctor. (Applause.) The great evil is the lack of homœopathic treatment, and where I want to see it extended, is in the country districts in which I have lived, where we have few homœopathic doctors that we can apply to, and very few dispensaries and organisations of any sort where we can get advice. And I believe that if young homœopathic physicians would go in to many of our country districts and set up a practice they would make a fine living, because in most of the villages and towns which I know in Sussex, which is not very far off, there are seven or eight doctors all cutting their own throats and killing their patients with abominable stuff—(laughter)—and charging high prices. My belief is in the theory of homœopathy, that it goes from the very bottom to build up the constitution of the individual. It does not ruin the constitution by purging medicines or things of that sort which we have known in the past ; but from the moment the patient comes into the hands of the homœopathic doctor he starts building up his constitution. The constitution is a thing which is lost sight of often, even amongst our medical men to some extent now-a-days, especially in the big towns, where you see the constitution deterior-

rating and going back every day. We in the country have other doctors ; we have Dr. Fresh Air, we have Dr. Appetite, we have Dr. Exercise, and Dr. Sleep, all free to us. These doctors keep our constitutions better in the country than you can hope to have them in the towns. But, Ladies and Gentlemen, my belief in homœopathy is that its adherents follow Nature much truer and nearer than the allopathy doctors do, and for that reason they do more good in the world in maintaining the constitution of many of the poorer people of this country, who require to have their constitutions built up and made firm. It is with great pleasure, My Lord, and Ladies and Gentlemen, that I support this resolution. (Applause.)

The resolution was then put to the meeting, and carried unanimously.

Mr. Joseph Howard, M.P. : My Lord, Ladies and Gentlemen. The resolution which I have been asked to propose is this : "That this meeting nominate as a General Committee to carry out the objects of the Association, the President, the Treasurer, and the following gentlemen, with power to add to their number : R. W. Perks, Esq., M.P. ; J. P. Stilwell, Esq. ; Capt. Cundy ; W. R. Arbuthnot, Esq. ; Sir Robert Hunter ; Henry Mansfield, Esq. ; W. M. McArthur, Esq. M.P. ; Col. Clifton-Brown ; J. J. Bowley, Esq. ; the members of the Executive Committee of the British Homœopathic Society ; Dr. Dyce Brown ; Dr. Clarke ; Dr. Madden ; Dr. Cash Reed ; Dr. Spencer Cox ; Dr. Goldsbrough ; Dr. P. Stuart. All donors of £1,000 and upwards to the fund shall be entitled to a seat on this Committee."

This resolution is consequential on those which have been already passed by this meeting, and it does not require any words of mine to recommend it to your notice. However, I am very glad to be here this afternoon to express my sympathy with homœopathy and homœopathic practice, and, like your chairman, to say what benefits I have derived from it myself, and how much good I have seen result from it in my own family, and in the members of other families with which I am connected. I am also convinced of its efficiency as a system. We have all, I feel sure, from the speeches which we have heard this afternoon, been satisfied of the importance of this movement at this particular juncture ; how desirable it is that the matter should be carried through for the benefit of humanity at large, and in the interests of scientific research, and we desire to support it in every way that we can. I do not think we can expect a movement of this kind to go through satisfactorily, unless we have a thoroughly good and strong Executive committee to carry out the operations, and I feel sure you will all agree with me that we could not have had better names than those I have read out to you in this list to carry on those operations. I was not aware when I came into this room that my name was to be put in as treasurer, but I am glad to do what I can to assist this movement, and if I can be of any service to you in this way I shall be very glad. I feel that we have had a very good and influential meeting here this afternoon and that the movement has had a good start, and I give it my cordial good wishes, and hope we shall see it prosper in every way. (Applause.)

Dr. Clarke : My Lord, Ladies and Gentlemen, I have much pleasure in seconding this resolution. I was not aware myself until I saw the resolution that my own name was on it, but, like Mr. Howard, I shall be happy to do my part. I may say that my name is here, as on the Executive Committee of the British Homœopathic Society. Well, the thing I feel inclined for executing is an *Odium Medicum*. The thing we have to contend with in putting forward homœopathy is not anything reasonable at all ; it is the feeling in the medical profession against us. That feeling is a perfectly unreasoning thing, but we have to understand that that is what we have to meet with. Now, the postscript of this resolution is a very important part of it : all donors of £1,000 and upwards to the fund shall be

entitled to a permanent seat on this committee. That is business. Those who pay the piper have a right to call the tune ; and it is a very necessary thing that those who subscribe the money to this movement should be in a position to say how that money shall be spent. (Hear, hear.) There are two things necessary in advancing any cause. I have no great belief myself in the power of abstract rights. For the last 100 years homœopaths have been singing the song "*Magna est veritas et prevalebit.*" Well, that is all very well, but I am ready to back *Odium Medicum* against any amount of abstract right that may be brought to bear against it. We have enjoyed our abstract rights all along, but we do not make much headway. In order to make any headway there are two things necessary. First of all there must be somebody ready to work, or it may be, to fight for it. (Applause.) And the next thing is there must be somebody to pay for it. (Hear, hear.) We have got somebody at last to set some machinery going, and that is our good friend, Dr. Burford. Before I sit down I should like to congratulate him on this very practical result of the energies which he has been putting forward all this time. I do not know whether there are any millionaires here to-day. Somebody said there were not. If there are any undecorated millionaires I should like to point out to them that in the course of the next few weeks there will be some comfortable seats in the House of Lords for distribution ; and if they will hand over a hundred thousand pounds or two to Dr. Burford, there is no saying what might happen. (Applause and laughter.)

The resolution was carried unanimously.

Captain Cundy : My Lord, Ladies and Gentlemen, the last resolution seems to have put you into possession of the men, and I hope the resolution I have to propose will put you into possession of the money. The resolution is "That a Twentieth Century Fund be organised, of at least £10,000, to enable the Association to carry on its work." I do not know whether any of you have been into a shop, and when purchasing something have seen the assistant quietly receive a paper from another assistant with this written on it : "Don't give it up without the money." We have this project forming ; we are projecting this proposed Association, but we cannot float it without money ; and for that purpose we want at least £10,000. That seems a great deal of money ; but others are raising £100,000 merely for the purpose of trying to find the reason of cancer. If we are looking into that question every day in all the hospitals in London, there scarcely seems any necessity for further investigations into that dire complaint. But I think it is very necessary that homœopathy should be set going. I think it is as patriots we should desire homœopathy to progress, because you know we have children growing up ; and how are they to grow up in health and strength unless, as Colonel Clifton-Brown has said, they are brought up naturally, and with good homœopathic medicines ? Besides, we have to consider the tempers of the children. I am old enough to know what a bitter thing it was to have to get up early in the morning and take medicine. (Laughter.) I know what nasty abominations they were. I knew what it was to swallow a box of steel pills, and the only way I was emancipated from the peril of the doctors was by my marriage some fifty years ago. My poor wife, after five years, broke down. The allopaths could do nothing for her, and they delivered her up to die. Then she became a homœopath, and she is alive to this day. (Applause.) What could I do but follow her lead ? I became a homœopath also, and I also am alive to this day. (Laughter.) And "I hope, my dear friends who are here, ladies and gentlemen, that you may live many years. Yet homœopathy will not keep you alive ; there is only one thing that can do that. When the Lord's time comes we must pass away. But these ills do not spring out of the earth, but are permitted to fall upon us by our Father in Heaven. Yet

He also provides remedies. All medical knowledge is from revelation from God. It is given to the seekers, and I do not see why the allopaths should deny that the knowledge derived by homœopaths is equally a revelation from God. Certainly it is a good that I can declare, not only from my own personal experience, but from the experience of my household, and in the Homœopathic hospital which I am privileged to visit continually. It is these facts of personal experience of the actual and wonderful good and superiority of homœopathic medicines over the allopathic system that make me always a strong advocate of homœopathy, and a willing helper of the hospital. And it is not only the opinion of a person like myself. Some years ago I was writing to the doctor of my old regiment, perhaps some forty years ago, and I said, "My dear old friend, I do not know what you will think of me, perhaps you will cut me, but I have become a homœopath." He said, "I am delighted to hear it. I only wish I knew when I was in the service what I know now about homœopathy, for many a poor fellow's life I might have saved and alleviated his complaint, which I was not then able to do." Homœopathy is as superior to allopathy, as the rifle was to the old brown Bess, and it is now a good many years since soldiers were armed with that first percussion musket. This is an old story you will see, but it is a fact. There was the testimony of a man who had no purpose to serve by making it, who had himself known all the horrors of allopathy, and who had learned in his later life the benefits of homœopathy. You have heard a good deal of speaking this afternoon, and I shall not take up your time further on that point. It was asked by one of our friends to say something about the objects to which this fund might be devoted. There are many ways in which the money might be used. We want a professorial chair; we want somebody who can lecture upon these subjects, so that when we have meetings of young men who desire to know what homœopathy is, they may attend and learn. We want money to establish that professorial chair, and also for the purpose of proving medicines. Of course we have all proved these medicines. Many of the ladies, perhaps, are homœopaths in their way. They have not taken honors; they are not M.D.'s or M.B.'s, but they are all private practitioners—(laughter)—in their own homes and upon themselves. And when we get the ladies on our side we shall have no difficulty in getting together £10,000, or £20,000, or £30,000, or any number of thousands of pounds, because there are no truer patriots than the ladies of England and of the British Empire. (Applause.) I have the pleasure to propose that a Twentieth Century Fund be organised, to enable the Association to carry on its work. (Applause).

Alderman Truscott: My Lord Cawdor, Ladies and Gentlemen, I rise with the greatest possible pleasure and satisfaction to second this resolution, and thereby to express my entire association with the object of this meeting. When, some few weeks ago, I found on my breakfast table a large packet of printed matter I was not surprised, because we all receive that nearly every day—(laughter)—but when I opened it and found to my great satisfaction, that the papers were connected with homœopathy, I did what I do not always do with the papers that I receive—I read the papers from top to bottom, with the result that I came to the conclusion that homœopathy was at last waking up. (Applause.) I found that it was catching the spirit of the times and going forward. Undoubtedly, as Dr. Burford said to us just now, homœopathy has arrived at a time when it requires a good push; at a period when it requires the help not only of the medical profession, but the laity. I am, as your chairman tells you he is, a homœopath by conviction. I am here to-day to support homœopathic tenets because of the good I have derived from treatment by homœopathy. (Hear, hear.) It was my privilege for many years to be a patient of Dr. Compton Burnett, and I believe there is not one in this room but will

gladly acknowledge the great services he rendered to the cause of homœopathy, and I cannot but regret that he is not with us to-day to see the time that has now arrived when homœopathy is to be pushed forward. (Hear, hear.) I am sure nobody would have rejoiced more gladly than he would have done. If, ladies and gentlemen, you desire to know whether I am still a strong homœopathist I will show you my credentials. (Applause.) Here they are. One thing which has appealed to me in regard to homœopathy is the handy way in which you put up your medicines. If you are told to take your medicine at 4 o'clock in the afternoon, you have not to bring away with you in the morning a half-pint bottle. When I was under allopathic treatment I have done such a thing, and a precious nuisance it was. Therefore I heartily rejoiced when I came under the treatment of homœopathy, and was able to carry my physic conveniently in my pocket. As I came into this Hall to-day, an envelope was put into my hand, and it was addressed to the Master of the Company. It was an appeal from the Cancer Research Committee. I could not help associating that appeal with our meeting to-day, for it shows me more than ever how timely this meeting is. There are, as we have been told by the gentlemen on my right, at the present moment associations formed in order to try and find out the cause of that terrible disease tuberculosis: also another committee formed in regard to the equally terrible disease cancer. Well, it is time that homœopathy came forward, because I am sure there is not one of us but feels sure that amongst the homœopathic drugs, perhaps concealed at the present moment, are the very ones which may prove effectual in dealing with those dire maladies. It is therefore with the greatest possible pleasure I am here to-day, and I support with every cordiality the resolution that has been proposed by captain Cundy, that a Twentieth Century Fund be organised, of at least £10,000, to enable the Association to carry on its work. (Applause.)

The resolution was then put, and carried unanimously.

The Secretary read the list of subscribers, as follows:—

Donations and Subscriptions either received or promised.

	£		£
Capt. Cundy ...	250	Miss Cruickshank	5
Dr. Peter Stuart	100	Isaac Thompson, Esq.	5
Dr. Dyce Brown	50	Miss Paget	5
Dr. G. Barford ...	25	Dr. A. M. Cash	3
Dr. Byres Meir ...	25	Mrs. Swain	2
Mr. Knox Shaw ...	25	Sir P. G. Julian	2
Dr. E. A. Neatby	25	Rev. Dr. Horton ...	2
Mr. Dudley Wright	25	Austin Reynolds, Esq.	2
Dr. J. W. Hayward	25	Dr. F. P. Stanley Wilde	2
Dr. Roberson Day	25 0	Dr. Stonham ..	2
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Dr. E. M. Madden ...	10 0	Dr. Clarke	25 0
Dr. A. C. Clifton	10 0	Amount of Donations and Sub-	
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F. H. Shaw, Esq. ...	5 5		
Dr. Cash Reed ...	5 5		
		Total	£988 16

Dr. Madden : Your Lordship, Ladies and Gentlemen, I have very much pleasure in proposing "That a Ladies' Committee be formed to act in concert with the General Committee : and consisting of the following ladies with power to add to their number :—

Lady Cawdor ; Mrs. Henry Wood ; Lady Hunter ; Mrs. J. M. Maclean ; Mrs. Clifton-Brown ; Mrs. Compton Burnett ; Mrs. Arbuthnot ; Mrs. Peter Rylands ; Mrs. Cundy ; Mrs. Stephenson ; Mrs. Wm. McArthur ; Mrs. Torrens-Johnson ; Mrs. Kelly.

As you have just heard, we have made a very good start, but we have still a lot of work before us to complete what I have told my friend Dr. Burford, I consider an altogether inadequate sum of £10,000 to do what he is hoping to accomplish. (Hear, hear.) I think the £20,000 or £30,000 which Captain Cundy has referred to would be much nearer the sum which we shall require to in anything like an adequate way carry out this programme. To do that we shall require the help of all our friends, and the ladies will be most invaluable assistants to us in our efforts to raise the funds, and in advising us how best to make use of them. A certain lady, in whose opinion I have great faith, reminds me now and again that although the men of this country may, according to law, consider themselves the head of the house, undoubtedly the wife is the neck. As we wish the heads of all our friends to be turned in a direction which will be favourable to us, we have all the more reason to desire that the necks should turn them in that way. Ladies and gentlemen, there is no need for me to dilate further on the primary object of this meeting. I only want to make one further remark, and that is that in our efforts to lay homœopathy fairly before the profession, all we wish is a perfectly fair and unbiassed hearing. Fair play and no favour is all we ask for. (Hear, hear.) Hitherto our opinions and our practice have been absolutely distorted and maligned in every way. That comes from an allopath source, and it is that which we have to fight against. Every young qualified medical man is turned out with a prejudice against homœopathy. He is told he must be either a fool, or a knave, if he can follow it or associate with it in any way. Those of you who have not had practical experience of it do not know how hard it is to persuade a young man to associate himself with homœopathy, or with a homœopathic hospital or dispensary. They will not look at them unless they have some private influence. They are so prejudiced that they will turn away from what is regarded as such an evil thing altogether, and they will not associate with it in any form. We have to take away the false, and replace it with the true knowledge of what homœopathy is. When that is done we have no fear that the result will be that large numbers will accept and follow our teachings. I have great pleasure in moving this resolution. (Applause.)

Dr. E. A. Neatby : My Lord, Ladies and Gentlemen, I have much pleasure in seconding the resolution which has been proposed by Dr. Madden. I am asked to state that Lady Cawdor has consented to have her name added to the Ladies' Committee. (Applause.) I think you will cordially pass this resolution. I have some little acquaintance with the

valuable work that ladies can do in connection with homœopathy in particular, not to mention what you all know in many other spheres. About a year ago the Board of Management of the London Homœopathic Hospital consented to organise, or to invite the organization of a Ladies' Committee or Guild in connection with their hospital; and in different parts of London that has already been done. I spoke to the lady secretary of the first branch of the Ladies' Guild of the Homœopathic hospital, and found out from her that in one neighbourhood, in the North of London, fifty-nine ladies have already banded themselves together with the object of helping the hospital, and each lady has invited at least one other lady to join that committee. If something of that kind can be evolved in connection with this larger and wider movement, which is being initiated this afternoon, I am sure there can be no doubt as to the issue of the movement. I have nothing further to say, except to once more cordially second the resolution which Dr. Madden proposed. (Applause.)

The resolution was unanimously adopted.

Mr. Dudley Wright: My Lord, Ladies and Gentlemen, I have great pleasure in moving a vote of thanks to the Master (Aldermen Wyatt Truscott) and the Court of the Stationers' Company, for being so good as to lend us their hall to-day for holding this meeting. (Applause.) I am sure you will all cordially support that. And I should like to say that my colleagues on the Executive Committee of the British Homœopathic Society feel themselves under a great obligation to Mr. Alderman Truscott for having been so good as to offer us this hall, as we had some difficulty in selecting a suitable place for this meeting. Mr. Truscott has said something about homœopathy waking up and going forward. Well, my Lord, I feel that we are waking up and going forward, and that we are starting under very good auspices when we find a large city company is ready to favour us, and help us on by lending us a hall for the meeting which starts this movement. (Hear, hear.) I will not detain you any more at this late hour, but will formally propose that a hearty vote of thanks be passed to the Master and the Court of the Stationers' Company for the use of the hall. (Applause.)

Dr. Goldsbrough: My Lord, Ladies and Gentlemen, I have much pleasure in seconding this resolution, that the best thanks of this meeting be given to the Master and Court of the Stationers' Company for allowing us the privilege of meeting here to-day. Perhaps if we were to follow the advice of another speaker, and carry our minds back a few centuries and speculate into the origin of these great Companies, and ask at the time of their origin what hall we might have been expected to meet in, it would scarcely be the Hall of the Stationers' Company. It might perhaps have been in the hall, not of a Company, but the off-shoot of a Company which is not very far from here. I allude to the Apothecaries' Hall. But I suspect if we were to ask to-day if we might use the Apothecaries' Hall, we should have been rudely rebuffed, saying "Do you want to damage our trade?" That is all past and gone now as far as the origin of Companies is concerned: and in this present day we find a great Company rising to

the occasion and allowing a meeting in their Hall for the advancement of the highest possible technical training and education. That is how it strikes me. And I should like to express my thanks personally as a member of the homœopathic body for permission to meet in this Hall to-day. I have the pleasure to second the resolution. (Applause.) (Carried).

Alderman Truscott : My Lord Cawdor, Ladies and Gentlemen, it is with very great pleasure I acknowledge the courtesy of this resolution of thanks to the Court of this Company for loan of this Hall to-day. I must say that when I had to bring the application before the Court I wondered how I could associate homœopathy with stationery—(laughter)—and it occurred to me that I might point out to the Court that perhaps there is no profession which utilizes paper and print more largely than the medical profession. And although of course it is somewhat difficult to get ready acquiescence for anything connected with homœopathy, still the Court were good enough to pay me the compliment of lending me the Hall ; and they did so without a murmur. I rejoice that this meeting should have taken place within the City of London, the home of freedom. We recognise no religious sect, in the city of London, over another. We recognise no politics, and we recognise no medical sects ; we only look to the general benefit of humanity ; and it is because this meeting may tend to the amelioration of human suffering that I rejoice it has taken place in the City of London. (Applause.) Reference has been made to the Apothecaries' Hall. It is not very far from here. In the old days the Archbishop of Canterbury, who is the patron of this Company, used to attend here for the purpose of burning heretical books in that garden. If this meeting had taken place in the Apothecaries' Hall 200 years ago, it is just possible that this Company might have been asked for the loan of its garden for the purpose of burning the homœopathic books. I thank you very much for the compliment you have paid my Company and myself. (Applause.)

Alderman Truscott : Ladies and Gentlemen, I have a great privilege bestowed upon me, and that is to propose a hearty vote of thanks to our Chairman. (Loud applause.) I join heartily in congratulating this movement upon having obtained his lordship as President of it. His lordship is known throughout the country as no faddist. (Hear, hear.) He is a practical business man, one who would not associate himself with anything which he did not consider thoroughly worthy of his association. (Applause.) It is therefore a matter of great congratulation that he has consented to accept the presidency, and in your name I tender to him the grateful thanks of homœopathy in general. (Applause.) I am sure that vote does not require any seconder. (Applause.)

The resolution was carried by acclamation.

The Chairman : Ladies and Gentlemen, I am very much indebted to you for your kind vote. I am also indebted to you, Mr. Truscott, for your very kind words respecting myself. We have met here with a definite and practical object to-day. We have succeeded in that object so far as the establishment of an organization goes, and we hope it is going to bear fruit. We will see it does bear fruit, and those who have put their hands to the

business I hope will endeavour to see it through. I concur with the view that to some extent £10,000 is not a large sum to enable us to do what we hope to, but if we get £10,000 I do not think we shall have great difficulty in getting a good deal more. It is the first step which is important, and when people find business is going to be done they will flock to it and give us further help. As far as I can give you any assistance and any leisure time I am glad to give it to so good an object. Since the subscription first was read out I am glad to announce that Dr. Clarke has given £25. I thank you very much indeed for having attended in such good numbers. We have had some good suggestions and excellent speeches, and we shall always feel very much indebted to Alderman Truscott for his kindness in giving us this Hall for the meeting. (Applause.) The proceedings then terminated.—*Monthly Homœopathic Review*, May 1, 1902.

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STORY OF MY CONVERSION TO HOMŒOPATHY

BY THE EDITOR.

It would not, I think, be uninteresting as an episode in the history of homœopathy in India to relate how my conversion was brought about.

At the preliminary meeting for the establishment of a medical society as a branch of the British Medical Association, held at the house of the late lamented Dr. Chuckerbutty, on the 27th May, 1863, in moving a resolution I made a speech in which I contemptuously alluded to homœopathy as one of the various systems of quackery which, I said, owed their rise and *temporary* triumph to the regular profession being unmindful of the following facts, namely, that all diseases are not curable, that many diseases, which our interference can do nothing for, are sometimes better left alone and to nature, and that quacks and charlatans stepping in when we desert our patients, often effect cures which perhaps we had been retarding.

I was thus, equally with my professional brethren, a hater and denouncer of homœopathy, and perhaps the most furious of them all. Like them I had no knowledge of it except from its caricatures by orthodox opponents. This distorted knowledge derived from misrepresentation of the system aided by the apparent

absurdity of the law of similars and the infinitesimal dose, was enough to justify my refusing to read works on homœopathy by homœopaths, that is by those who had practically investigated its claims and found them based upon fact.

The contemptuous allusion to homœopathy in the speech referred to met the eye of the late Babu Rajinder Dutt, the most distinguished among the few laymen who had taken up the cause of the despised and the persecuted system. He, a millionaire, out of pure disinterestedness, had in his earlier career, been one of the chief instruments in bringing into favor the European allopathic system. And with that disinterestedness associated with an acute discernment, he saw the superiority of homœopathy over the prevalent system of medicine. He took up its cause with his usual earnestness and did his best to diffuse its blessings among his fellow-citizens of Calcutta. By effecting cures some of which were the most brilliant in the annals of homœopathy in India, he had succeeded in making converts of some highly intelligent and educated laymen, among whom was the late Pandit Iswar Chandra Vidyasagar. But not only did he fail to influence professional men, most of whom were his friends and some of whom had owed their advancement to his exertions, he began to be looked upon by them as one who had lost his head and was spoiled by one of the most audacious and mischievous of quackeries.

But such treatment by his medical friends did not deter him from pursuing the course he had taken. His conviction of the truth of homœopathy from personal experience was so strong that he was sure he would be able to impart those convictions to any medical man if he would but listen to him and watch his cases. When he read my speech he found something in it, as he told me afterwards, which inspired him with the hope that he had at last found a professional whom he would be able to bring over to his side, that is, to the side of truth, if only he could be induced to hold in abeyance his professional pride for a time.

That hope would in all probability have remained unfulfilled, had it not been for a pure accident. Babu Rajinder Dutt was untiring in his endeavours to make a convert of me, but with an obstinacy which was characteristic of deep-rooted prejudice I was repelling all his arguments and refusing even to watch his

cases on the plea that I could not afford to lose time and professional dignity to watch cases under a layman.

While such struggle was going on between us, a lay friend ill-disposed to homœopathy handed me a homœopathic pamphlet for review for a periodical of which he was one of the editors. The pamphlet was Morgan's *Philosophy of Homœopathy*. This I thought was a very good opportunity for me to smash homœopathy and silence Babu Rajinder. The book was the first on homœopathy I condescended to read, and I thought I would write off a review of it in no time. But what was the impression after a cursory glance at the pamphlet? I was convinced that I could not review it properly before reading it a second time. On a second careful perusal the conviction was forced upon me that no opinion could and should be passed on *à priori* grounds alone on a system which was alleged to be based upon facts, and which boldly challenged an appeal to facts. But how to get at the facts? I had no other alternative than to turn to Babu Rajinder. He was the only practitioner whose cases I could watch, and though a layman, I now did not hesitate to sacrifice professional dignity, and made up my mind to be as it were his clinical clerk in order to arrive at the truth which appeared to me to vitally concern the profession and humanity at large.

Before taking this step I made a stipulation with Babu Rajinder. I told him that, as I believed his cures were effected by the strict regimen that he enjoined and not by his infinitesimal nothings globules or drops, I would agree to observe cases with him, provided he would agree to keep the patients for a time at least under strict regimen alone, and give them no medicine till it should appear that further expectancy would be injurious. He readily agreed. Strange to say, and to his dismay, a few cases did recover under regimen alone, and without any medicine. But my triumph was not to continue long, for others proved refractory, and I had to give my consent to administer his medicines to them. A great many recovered, and the incurables were benefited. This fact staggered me; the efficacy was too evident to be gainsaid; and I was compelled much against my will of course, to make trials of the medicines myself in the cases which resisted my own treatment. The result, to my mortification, was something bordering on the marvellous if not miraculous.

These trials were begun in 1865, and in the course of a year the conviction became strong that Homœopathy was not the humbug and the quackery I had thought it was. In order to be sure of the degrees of their actual attenuation I prepared with my own hands some of the medicines, and I was surprised, as I have said, at their efficacy when administered according to the principles of the system. There was truth in the system, and to further resist and oppose it, would, it appeared to me, to be to resist and oppose the truth. And as the truth was concerned with my professional life, and as I was member of a profession whose sacred duty it was to avail themselves of every means for the cure of disease, the amelioration of suffering, and the prolongation of life, I thought it my duty to lay my experiences before the profession.

As a first step, to one professor of my college who had a great liking for me when a student and afterwards, and at whose fatherly insistence I had dared to appear at the M.D. examination, I timidly communicated my altered convictions. He was horrified to learn I had somehow come to have a leaning towards the hated system. He was sure, however, that with increased and matured experience I would see through its absurdity. From the manner in which he spoke I almost thought so myself. But increased experience only brought stronger conviction and I dared not meet him again. Some time, perhaps not less than six months after, we accidentally met as we were passing in the same street. He stopped his conveyance and beckoned me. The first question he asked was, "how is it you have not seen me so long?" "Simply because," I said, "my convictions about homœopathy having gained in strength from extended experience, I did not expect any sympathy from him." "You have my sympathy always. You have made a mistake. You are a rising man and have a bright prospect before you. A time will come when we shall have to consult you. I have every hope of your mistake being rectified in due course. I will advise you not to give out your conviction yet too soon. If you do you will have to repent for it." This was what in substance he said. In those days the professors took a great interest in their pupils and actually loved them, and the veneration of their pupils for them was unbounded.

I followed the advice given with such kindness and warmth of affection. But I went on with my trials which had become a necessity. With each trial the truth of homœopathy was revealed in greater splendor. To keep the truth any longer to myself would be, I considered, cowardice which was worse than crime. I thought, in my simplicity, that the members of our medical association who had cheered me when I had denounced homœopathy in my ignorance, would at least listen to me with attention when I would speak in its favor from personal experience. And truly I *was* listened to with attention when I delivered my address "On the Supposed Uncertainty in Medical Science and on the Relationship between Diseases and their Remedial Agents," at the 4th Annual Meeting of the Association in Feb. 1867. Discussion was begun and was being carried on on the subject of the address in the most sober and temperate manner imaginable, as on other subjects and at other meetings. In fact the members were behaving as befitting members of a scientific profession when suddenly one of them, a marine surgeon, probably weary of the calm that was reigning, raised quite a storm by simply expressing his surprise that the meeting should be discussing homœopathy instead of dismissing it with contempt, and treating a homœopath as a professional brother instead of expelling him from the association and from the room.

These words had a magical effect. Every one present shared in the surprise of the worthy champion of orthodoxy. The temper of the meeting underwent a sudden change. The coolness and sobriety of scientific discussion became at once transformed from the blow that had come down upon it into superheated zeal in defence of what was called rational medicine and the legitimate profession. Even some of the laymen who had been invited to the meeting caught the contagious fire. Had it not been for the interposition of one of the secretaries, who was an Irishman, the meeting would have succeeded in achieving the triumph of expelling the offending member who a moment before was a vice-president. The Bengal branch emulated the parent Association in bigotry if in nothing else. The scene was dramatic in the extreme, and is still vivid in my mind. Some idea of it was given by an eye-witness in one of the papers, and I must content myself with referring to it instead

of attempting a description myself, especially as I have in contemplation the reprinting of my address with the opinions of the press thereon and on the proceedings of the meeting. The press as will be seen, was unanimous in condemnation of bigotry and in favor of toleration in matters scientific.

After the meeting there was considerable and uselessly wrangling about the possession of my paper. I was peremptorily asked to leave it with the Secretaries, as it was a property of the association. I protested and pointed out that, having been the first secretary of the association for three years, since its establishment, I knew positively there was no rule to that effect; and that never before we had demanded from their authors the papers that were read at our meetings. When it was found that I was not so docile and submissive as they had thought, or at least thought they could coerce me to be, one of the members who had played the second best at the meeting requested me to make over the paper to him which after considerable hesitation I did, but not before telling him that I had no objection to giving the paper to him as a friend but not as an office-bearer of the association. As events showed I was justified in my hesitation. It was with difficulty I got back the paper and that not before the administration of a legal threat. Had I not thus insisted upon getting the paper back, it would never have seen the light. It was written off-hand and I had not even a rough copy of it. Besides, I was anxious that it should appear exactly as it was, without the slightest alteration, in order that the public may see for themselves what my actual position was, and on what slender grounds I was condemned and made an outcast.

An outcast I actually became from the next day of the meeting. The rumor spread like wildfire that I had lost my reason, that I had yielded to the seductions of Babu Rajinder Dutt and given my adhesion to one of the worst and the most absurd of quackeries that had ever come into existence, that I had forgotten my mathematics and now believed that the part was greater than the whole. My patients, and their number was not inconsiderable, who had perfect faith in me, regretted that I should have given up my old convictions, and one by one forsook me. The loss of my practice was sudden and complete. For six

months I had scarcely a case to treat. Even those who used to receive advice gratis every morning at my house ceased to come, and if any body, not finding benefit any where else, did come it was only to beg me to give him my old and not my new medicines. My old master, the late Babu Thakur Dass Dey, from whom I had received the rudiments of education and who loved me as his own son, used vehemently to remonstrate with me for having brought on my ruin. There were sincere friends who offered the kindly advice of retracting ! Such remonstrance, such advice was to me worse than loss of practice. My reply to my beloved tutor and to my kind friends was that I would rather give up my profession and take to any other calling, or even starve, than disavow the truth. I was prepared to brave any contingency that might happen to me for my honest convictions, and to proclaim to the world to the utmost of my power what I believed to be the truth.

I was sustained by my faith in the ultimate triumph of truth, but that triumph, I was also sure, could only be brought about by persistent presentation and advocacy of the truth. And I felt that that presentation and that advocacy should come from one who had a regular training in the medical sciences, and therefore could speak with authority, and who would not be suspected of mistaking a mild for a grave disease. Babu Rajinder had succeeded in making converts of a few highly intelligent laymen, and he had succeeded in converting at least one professional man, and that conversion was due to observing actual success of homœopathic treatment. Babu Rajinder was a layman and therefore notwithstanding the marvellousness of some of his cures he could not command that confidence from the community which he could if he had been a regular professional. He could only be sent for in extreme cases given up by the doctors, and it is not every extreme case that could be brought back to life from the jaws of death. Failures must necessarily arise, and failures in his hands were bound to be fatal to the advancement of the cause for which he was laboring with such earnestness and zeal. He was at first associated with one who, though he called himself an M.D., was in reality a layman who had necessarily no proper acquaintance with the medical sciences ; and latterly he was associated with a professional who was more

a religious enthusiast than a zealous physician. He more often practised hydropathy than homœopathy, and thus courted failure in many an instance. One of his unlucky failures was related with dramatic effect at the meeting. The association of such a practitioner with Babu Rajinder, far from bringing credit, brought in many cases serious discredit upon the system. Babu Rajinder felt it, but he could not help it; and therefore he was on the look-out for one who could co-operate with him and then take his place.

I thus found myself forced to a position for which I could scarcely think that I was competent. It became but too evident that I must not content myself with merely practising the system in which I had recognized the germ of a beneficent truth capable of indefinite development, but that I must help in that development, and do all in my power to diffuse a knowledge of it among the profession and the public. I had no hopes of doing this through the medium of orthodox journals of which there was only one in India at the time, the *Indian Medical Gazette*, the columns of which were shut against me even for reply to unfounded charges and slanderous accusations. I thought it not only inadequate but undignified to do so through lay journals. I saw that I must have a journal of my own if I was to fulfil my mission at all. The attitude of the press of India encouraged me to take the risk, and a journal with an 'unsectarian name was started from January 1868.

The appearance of the journal had at once the remarkable effect of silencing the opposition from my lay countrymen, perhaps because they saw that I was not quite the fool they had believed I had become. The opening article giving expression to "Our Creed" of catholicism in medicine succeeded in disarming criticism even of my most hostile opponents. Even the *Indian Medical Gazette*, "though declining to agree with him in the principles of his creed," could not "but commend the spirit and perseverance which have induced Dr. Mohendro Loll Sircar, single-handed to start a 'Journal of Medicine' in Calcutta." How far the Journal has been instrumental in furthering the cause of Homœopathy in India I must leave it to the future historians of medicine to determine. This much is certain that since its appearance, the spirit of intolerance and bitter

opposition has nearly vanished, at least so far as external manifestation goes, and that orthodox physicians have begun to feel the power of homœopathy so far that they very seldom give up cases lest they should go to the homœopath and be cured.

The Journal has been in existence ever since, but had to remain in suspended animation from time to time owing chiefly to illness which was often serious enough to disable me from all work, but partly also to public duties which were imposed upon me by Government or my countrymen, and left me no time for my self-imposed task.

The very few distinguished laymen whom Babu Rajinder had converted were, needless to say, my first supporters. They trusted me with cases which in the beginning I invariably treated in conjunction with Babu Rajinder, as my own knowledge of homœopathy then was not adequate enough to inspire me with confidence to undertake unaided the treatment of any serious and complicated case. I found homœopathic treatment to be greatly more difficult than old school treatment. Whereas I could prescribe off-hand if I had to treat a case after orthodox methods, I could not do so if I had to treat after the method of the new school, without a great expenditure of thought in interpreting the symptoms and signs presented by the patient, and of time in consulting books to find a remedy to correspond with those symptoms and signs. Though I had improved my knowledge of the *Materia Medica* during the "starvation" period of six months when I had no practice and therefore nothing else to do, I found the injunction of Hahnemann but too true that no conscientious physician ought to consider his knowledge of the *materia medica* minute enough to enable him to dispense with the necessity of consulting it in every case. After an experience and study of nearly forty years I find the same necessity still existing, and I would advise every practitioner of the new system not to lose sight of the Founder's injunction.

I need hardly say that in the course of a short time my practice began to look up. Disease is, no respecter of person, of school, of creed. People cannot afford to endure suffering or lose life for the sake of a favorite physician or of a favored system. They do not care after the methods of which school they are treated so long as their ailments are cured. If the old school

could effect cures in all cases or even in the majority of cases the new school would have had no footing; indeed, there would have been scarcely any necessity for it. But it was notorious that except in surgical diseases the old school had but few genuine cures to boast of. It was a signal failure in cholera, scarcely less so in chronic diarrhoea and dysentery, in fevers which were not amenable to quinine, and in the vast majority of diseases for which no specific had yet been discovered. It was because of my having observantly watched these failures that I was induced to look beyond the bounds of my orthodoxy, and it was because I found the homœopathic method superior to the old methods that I had given in my adhesion to the system in the face, as has been seen above, of virulent opposition and persecution. And, therefore, notwithstanding the collapse of my practice, I had not given up all hope. I had not to wait long. My persistency in the path I had chosen brought in its reward. Uncured cases began to come to my out-door, and their cures began to spread the cause.

Thus the 16th February 1867 has been memorable in the history of the medical profession in this country. On that day a native member of the profession was the first in India to stand up for a reform in medicine and for this he met with opposition and even persecution similar to that which had attended the reform in the land of its birth and in other parts of the world. Upwards of thirty-five years have elapsed since that date, and considering the circumstances of the country the progress of the reform has not been unsatisfactory. There has been growing appreciation of homœopathy throughout India. Numbers of the native members of the regular profession have openly adopted the system and are practising it with success. Though income is no criterion of true success, yet the fact that several homœopathic practitioners are enjoying respectable incomes shows that the system must be in favor with the community. This is evidenced by another fact which is no less significant. We have no regular and adequate organization for teaching the principles and the practice of the system, notwithstanding the existence of four (!) homœopathic schools in Calcutta, and the necessity has been felt of resorting to America for due qualification. Some had actually gone to that distant land

of freedom and come back equipped with degrees from her recognized Homœopathic Colleges, and others are following their good example. Who would have thought of undergoing heavy expenses and of undertaking long and perilous journeys for homœopathy if there had been no demand for its practitioners?

The evidence of the law of demand and supply in favor of homœopathy is supplied by another fact, namely, the growth and multiplication of lay practitioners. Had it not, been for the evident superiority of the new system over the old, people would not have trusted their health and their lives to laymen. We must thankfully acknowledge the debt we owe these men for their help in the spread of the cause. For India as a whole, as will have been seen from the above, the pioneer of homœopathy was a layman from the fact of his having succeeded in converting a professional; and laymen practitioners are the pioneers of the system in the villages and towns of the mofussil. This seems to be a necessity all over the world; in our country it has been particularly so, no doubt because of the conversion of so few regular practitioners. This necessity has not been an unmixed good. And no wonder. We cannot expect laymen to maintain the dignity of a system which requires for its successful practice the highest knowledge of the collateral sciences against an opposition intimately acquainted with these sciences. We are free to acknowledge, and we do so with the greatest pleasure, that some laymen practitioners are wonderfully successful by dint of their honest and laborious search for symptoms, which it is to be regretted the regular practitioner in his pride so much neglects. One of these practises homœopathy purely out of philanthropic motives. Every morning he gives advice and medicine gratuitously to over one hundred poor patients. When pressed he visits patients at their houses, but he never takes any fee. He is imbued with the true spirit of Homœopathy, but unlike others he has no ambition to pass off as a doctor. He keenly feels his want of knowledge of anatomy, physiology, and other auxiliary sciences. He would give up his self-imposed task if the poor whom he treats would get the regulars to pity them. To such a man we should feel grateful for his services in our cause, and gratitude demands that I should give out his name. He is Babu Dina Bandhu Mukerjee, of Shibpur, a clerk in a Government office.

REVIEW.

The Therapeutics of Fevers, Continued, Bilious, Intermittent, Malarial, Remittent, Pernicious, Typhoid, Typhus, Septic, Yellow, Zymotic, etc. By H. C. Allen, M.D., Professor of Materia Medica in Hering Medical College, Chicago. Boericke & Tafel, Philadelphia, 1902.

THIS WORK is in reality the third edition of Dr. Allen's previous work, the *Therapeutics of Intermittent Fever*, which had gone through two editions, the first issuing in 1879 and the second in 1884. The change of title has been a wise one as any of our medicines may be a remedy for any type of fever intermittent, remittent, or continued, typhoid, typhus, yellow, or bubonic. The second was a considerable improvement upon the first edition, and this the third under a new title is, in many respects, a great improvement upon the second. There has been an apparent increase of size by 200 pages. We say apparent because the matter in the therapeutic portion having been more heavily loaded than in the second edition, the 200 might have been reduced to 125 pages. But even this is not a small increase in size. In the second edition there were 125 remedies, in the 'present there are 133. Six of what the author called *minor remedies* in the second edition, namely, *Alstonia*, *Asafetida*, *Cornus flor*, *Cuprum*, *Marum*, and *Sarsaparilla*, have been omitted in this. The remedies that have been added are—*Actea racemosa*, *Anthraxinum*, *Argentum nitricum*, *Cadmium sulphuricum*, *Clematis erecta*, *Crotalus horridus*, *Malaria officinalis*, *Muriatic acid*, *Pyrogen*, *Sulphuric acid*, *Tarentula*, *Terebinth*, *Tuberculinum*, *Veratrum viride*—altogether 14 in number. While we welcome the additions we are sorry for the omissions, for each of these latter has some characteristics which might be of help to the practitioner.

The repertory has been made much fuller, no less than 60 pages having been added to include the new remedies introduced, and to give a list of the general symptoms in schematic form. We have noticed a large number of remedies, over one hundred, of which the characteristics are given in the repertory though they are not treated of in the body of the work, such as *Alst.*, *Aur.*, *Asaf.*, *Brom.*, *Can. s.*, *Can. i.*, *Fluor. acid*, *Chin. ars.*, *Corn.*, *Cup.*, *Daph.*, *Salic. acid*, *Glon.*, *Grat.*, *Ham.*, *Kreos.*, *Lept.*, &c., &c. It would have been well if the author had given them a place there

as minor remedies with their fever symptoms. To find the name of a remedy in the repertory and not to find a summary of its symptoms in the body of the work, is disappointing.

"The author is deeply grateful," says he in the Preface, "to his professional colleagues, especially in India where fevers of every type are endemial, for their commendations of the monograph on Intermittent Fever." India is indeed the home of malarious fevers, but not of true typhoid or typhus fevers. Occasionally the true typhoid is met with, but very rarely the true typhus. The yellow fever is never seen. The bubonic fever is endemic in isolated spots such as Garhwal in the Himalayas. Influenzal fevers, the dengue, and the beri beri are recent visitations. We are afraid, however, that with the rapid means of intercommunication invented by science we may have in the not distant future all sorts of endemic and epidemic diseases which have not yet visited our shores. Monographs of the kind under review are therefore most welcome not only for the combating of malarious fevers that are the scourge of our country, but of other fevers that are likely to be our future scourges.

We have nothing but unqualified praise for the admirable way in which the distinguished author has given the general characteristics and the fever symptoms of the remedial agents, with comparisons with other remedies within brackets. We are only sorry that he should have thought fit to replace very largely by remedies the clinical cases of former editions. If, as the author himself says, "they were intended to illustrate the sphere of action, as well as the selection of the remedy, and at the same time to dispel the delusion honestly entertained by many, 'that patients will not wait for the homœopathic remedy to act, hence must resort to Quinine,'" we do not see how it is that the function of these clinical cases have ceased; on the contrary we believe that if homœopathy is to gain the confidence of the community, it must be through its clinical achievements, and the more widely they are published the better for our cause.

The omission from the present edition of the following cases which had appeared in the previous edition, will show how, unwise have been these omissions:

"A number of cases had no chilly stage at all. During the heat the patient was generally thirsty and sleepy. The fever passed off after midnight with perspiration. The patient has had either a sour

taste in the mouth or sour vomiting where Lyc. has been successful." —E. C. PRICE, *Med. Inv.*,—Vol. II., p. 322.

CASE I.—H. B.—My own child, æt. 8, of an amiable disposition—rather more so in sickness than in health—light hair, blue eyes, slender; first attack about 9 A.M.; next 7 A.M.; all others, with two exceptions, on awakening in the morning. Chill mostly felt in lumbar region, and lasting from thirty minutes to one hour. The *heat* lasted until 7 or 8 P.M., whether the paroxysm commenced on awaking or at 4 P.M. Some perspiration during the heat. Thirst predominated during chill, always called for water at commencement. Vomiting of water, mixed with food, of a greenish color, with two-thirds of the paroxysms, and always *between chill and heat*. The early appearance, with vomiting, between chill and heat, led me to give Eup. perf.²⁰⁰ for four days; then the tincture. It had no effect: Chill in the back induced me to give Caps., high and low. No response. Ign. and others were tried with similar results. Circumstances, which can not be mentioned here, made it necessary to arrest them with Quinine. Two weeks after another chill at 4 P.M., lasting with the heat, until 8 P.M. No medicine was given. The following attack at 2 P.M. Both were accompanied by vomiting between chill and heat, which perplexed me, as Eup., the only remedy that I then knew that had this symptom, had no effect. The *time* of last attack led me to study Lyc., and in Lippe's Text-Book I found *sour vomiting between chill and fever*. The child now said the vomited matter was sour as vinegar. This settled the question. Three doses of Lyc. 41000 (Fincke); one slight attack after. I think this was a Lyc. case from the beginning, the same vomiting being present throughout—C. BERNREUTER, *Med. Inv.*—Vol. II., p. 150.

We may learn from this case the necessity of obtaining some of the finer characteristics of the drug and the patient. Here was vomiting *between chill and heat*, so characteristic of Eup. perf. and Lyc. The *kind of vomiting* distinguishes between them; the former *being bitter*, the latter *sour as vinegar*.

CASE II.—A large, fleshy man, about 30, was prostrated by chills and fever; chill every other day, about 4 P.M., for two hours, followed by more or less fever till the bed time, when he would be comparatively well till morning. Both chill and fever were very severe, patient tossing, anxious, hot and restless. Urine heavily loaded with a pinkish, half-floating sediment, and a brick-dust sediment at bottom of vessel; severe pain in the renal region, which was aggravated by retention of urine after desire to urinate, and increasing in severity in proportion to time of retention; was relieved by urinating; belched much flatulence, which rumbled and pained him. Lyc. high, because it has proved useless in my hands in the cruder preparations. The relief was prompt, steady, continuous, and in less than a week was cured.—W. J. HAWKES, *Am. Hom.*,—III., p. 91.

CASE III.—A. L. W., æt. 30, dark complexion, had a severe attack of intermittent fever, from which he was confined three weeks. Was treated by a colleague, and got out, but came down again in a week

with a relapse. When he consulted me, chill appeared at 4 P.M. Chill predominated over the fever; constipation; sour, offensive sweat; complexion sallow; eyes dull and conjunctiva slightly yellow; urine scanty, somewhat turbid. Lyc.²⁰⁰, without chill returning.—G. N. BRIGHAM, *Priv. Com.*

These cases might have been reported better. But as they are they have a considerable value. It is especially in the matter of the treatment of the malarious fevers that there is imperative necessity of the publication of cases. If we want to set at rest the quinine controversy, we must show that cases may be treated with success by homœopathic remedies from the very beginning, without having recourse to this so-called allopathic specific, at any stage of the disease, and we must also show that cases treated by quinine either prove fatal or drag a miserable course of suffering and aggravation and complications by virtue of the deleterious effects of the drug, and are never cured. It must be remembered that mere assertion however loud and boastful is not proof.

Our own conviction has remained the same that we expressed upwards of thirty years ago. We believe that quinine, even in material doses, has a place, and a respectable place, in the treatment of malarious fevers, and that cases do occur which would succumb but for it. We are fully aware that it is most perversely abused by our colleagues of the other school, but that is no reason why it should not have its legitimate use. If it is madness to use it blindly and push it recklessly in increasing doses under the idea that the doses previously prescribed were not sufficient, it is no less madness to withhold its exhibition notwithstanding the recurrence of paroxysms which threaten to endanger life. We agree with our author when he says (in the Preface): "Another clinical fact which has been verified by many observing homœopathic physicians that the suppressive treatment by massive doses of quinine as practised by the dominant school, is not only positively injurious but often fatal." The abuse of the drug by the old school should teach us how to use it properly and judiciously. Not to do so would be disregarding the very spirit of homœopathy and the good sense of its founder which prompted him not to hesitate to administer massive doses of Camphor in the first stage of cholera. We would go further and say that such a course would be trifling

taste in the mouth or sour vomiting where Lyc. has been successful."—E. C. PRICE, *Med. Inv.*,—Vol. II., p. 322.

CASE I.—H. B.—My own child, *æt.* 8, of an amiable disposition—rather more so in sickness than in health—light hair, blue eyes, slender; first attack about 9 A.M.; next 7 A.M.; all others, with two exceptions, on awakening in the morning. Chill mostly felt in lumbar region, and lasting from thirty minutes to one hour. The *heat* lasted until 7 or 8 P.M., whether the paroxysm commenced on awaking or at 4 P.M. Some perspiration during the heat. Thirst predominated during chill, always called for water at commencement. Vomiting of water, mixed with food, of a greenish color, with two-thirds of the paroxysms, and always *between chill and heat*. The early appearance, with vomiting, between chill and heat, led me to give Eup. perf. ²⁰⁰ for four days; then the tincture. It had no effect: Chill in the back induced me to give Caps., high and low. No response. Ign. and others were tried with similar results. Circumstances, which can not be mentioned here, made it necessary to arrest them with Quinine. Two weeks after another chill at 4 P.M., lasting with the heat, until 8 P.M. No medicine was given. The following attack at 2 P.M. Both were accompanied by vomiting between chill and heat, which perplexed me, as Eup., the only remedy that I then knew that had this symptom, had no effect. The *time* of last attack led me to study Lyc., and in Lippe's Text-Book I found *sour vomiting between chill and fever*. The child now said the vomited matter was sour as vinegar. This settled the question. Three doses of Lyc. ⁴¹⁰⁰⁰ (Fincke); one slight attack after. I think this was a Lyc. case from the beginning, the same vomiting being present throughout—C. BERNREUTER, *Med. Inv.*—Vol. II., p. 150.

We may learn from this case the necessity of obtaining some of the finer characteristics of the drug and the patient. Here was vomiting *between chill and heat*, so characteristic of Eup. perf. and Lyc. The *kind of vomiting* distinguishes between them; the former *being bitter*, the latter *sour as vinegar*.

CASE II.—A large, fleshy man, about 30, was prostrated by chills and fever; chill every other day, about 4 P.M., for two hours, followed by more or less fever till the bed time, when he would be comparatively well till morning. Both chill and fever were very severe, patient tossing, anxious, hot and restless. Urine heavily loaded with a pinkish, half-floating sediment, and a brick-dust sediment at bottom of vessel; severe pain in the renal region, which was aggravated by retention of urine after desire to urinate, and increasing in severity in proportion to time of retention; was relieved by urinating; belched much flatulence, which rumbled and pained him. Lyc. high, because it has proved useless in my hands in the cruder preparations. The relief was prompt, steady, continuous, and in less than a week was cured—W. J. HAWKES, *Am. Hom.*,—III., p. 91.

CASE III.—A. L. W., *æt.* 30, dark complexion, had a severe attack of intermittent fever, from which he was confined three weeks. Was treated by a colleague, and got out, but came down again in a week

with a relapse. When he consulted me, chill appeared at 4 P.M. Chill predominated over the fever; constipation; sour, offensive sweat; complexion sallow; eyes dull and conjunctiva slightly yellow; urine scanty, somewhat turbid. Lyc.²⁰⁰, without chill returning.—G. N. BRIGHAM, *Priv. Com.*

These cases might have been reported better. But as they are they have a considerable value. It is especially in the matter of the treatment of the malarious fevers that there is imperative necessity of the publication of cases. If we want to set at rest the quinine controversy, we must show that cases may be treated with success by homœopathic remedies from the very beginning, without having recourse to this so-called allopathic specific, at any stage of the disease, and we must also show that cases treated by quinine either prove fatal or drag a miserable course of suffering and aggravation and complications by virtue of the deleterious effects of the drug, and are never cured. It must be remembered that mere assertion however loud and boastful is not proof.

Our own conviction has remained the same that we expressed upwards of thirty years ago. We believe that quinine, even in material doses, has a place, and a respectable place, in the treatment of malarious fevers, and that cases do occur which would succumb but for it. We are fully aware that it is most perversely abused by our colleagues of the other school, but that is no reason why it should not have its legitimate use. If it is madness to use it blindly and push it recklessly in increasing doses under the idea that the doses previously prescribed were not sufficient, it is no less madness to withhold its exhibition notwithstanding the recurrence of paroxysms which threaten to endanger life. We agree with our author when he says (in the Preface): "Another clinical fact which has been verified by many observing homœopathic physicians that the suppressive treatment by massive doses of quinine as practised by the dominant school, is not only positively injurious but often fatal." The abuse of the drug by the old school should teach us how to use it properly and judiciously. Not to do so would be disregarding the very spirit of homœopathy and the good sense of its founder which prompted him not to hesitate to administer massive doses of Camphor in the first stage of cholera. We would go further and say that such a course would be trifling

with human life. We should never forget what Hahnemann put as the very first aphorism of his *Organon*: "The physician's high and *only* mission is to restore the sick to health."

A new and most useful feature of the work is the Analysis given at the end of each article. As a sample we reproduce the one from *Pyrogen*, which, by the bye we must say, the author has wrongly called a *Nosode*. It is, as he rightly says, "a product of sepsis" and not of disease, and therefore cannot be called a nosode like *psorinum*, *tuberculinum*, *anthracinum*, or *secale cornutum* which is a vegetable nosode.

Analysis.—For the first use of *Pyrogen* in typhoid and septic conditions we are indebted to our English homœopathic brethren. It is adapted to the most malignant type; cases, in which we formerly zig-zagged a cure with Arsenic, Carbo veg., Rhus or Terebinth, are met directly by this powerful nosode. But it is in puerperalism that it bids fair to occupy a unique place in our therapeutics; here it is almost without a rival, in prompt and effective action, when the best selected remedy fails to > or improve.

Prodrome: aching and soreness of the limbs.

Chill: begins between scapulæ; as soon as he touches the cold sheets; **the bed feels hard.**

Heat: frequent urging to urinate as soon as the fever* comes on; circumscribed redness of the cheeks.

Sweat: profuse, exhausting, carrion like; cold, musty, viscid; of single parts.

Chill: begins in the back, between scapulæ; **severe, general of bones and extremities**; marking onset of septic fever; temperature 103 to 106; heat sudden, skin dry and burning; pulse rapid, small, wiry, 140 to 170; cold clammy sweat follows.

In septic fevers, especially puerperal, *Pyrogen* has demonstrated its great value as a homœopathic dynamic antiseptic.

The author should have given a list of all the remedies mentioned in the book (body and repertory) with their abbreviations to which he should have adhered, which unfortunately he has not done to the confusion of his readers. The get-up of the book is, as Messrs Boericke & Tafel's publications always are, excellent. The praise is well deserved when the author says "that he is blessed with a publisher and printer who take pride in the character and quality of their work irrespective of the dollars concerned."

* The word in the book itself is "chill," not "fever," evidently a typographical mistake.—Ed., C. J. M.

EDITOR'S NOTES.

The King's Tuesdays.

The principal events in the life of his Majesty King Edward VII. has happened on a Tuesday—viz., on Tuesday, Nov. 9th, 1841, His Majesty was born; on Tuesday, Jan. 25th, 1842 he was baptised; on Tuesday, March 10th, 1863, he was married; on Tuesday, Dec. 8th, 1863, he was appointed a member of the Privy Council; on Tuesday, Nov. 21st, 1871, it was definitely ascertained that he had contracted typhoid fever; on Tuesday, Feb. 27th, 1872, he attended the Public Thanksgiving Service for his recovery; on Tuesday, Jan. 22nd, 1901, he succeeded to the throne; on Tuesday, Jan. 29th, 1901, the Royal Standard was hoisted at Marlborough House for the first time; and on Tuesday, June 24th, 1902, His Majesty underwent an operation for perityphlitis. As an exception to the above-mentioned cases it may be stated that it was on a Monday (July 18th, 1898) that the King sustained a fracture of the left patella through missing his footing while descending the spiral staircase at Waddesdon Manor during a visit to the late Baron Ferdinand de Rothschild—*Lancet*, July 5, '02.

**A New Mode of Operating for Stone Adopted By
M. Dupuytren.**

M. Dupuytren has just performed the operation for stone in a new mode, and with the aid of a new instrument. The operation may be called the transverse operation (*taille transverselle*), and the instrument, the double *lithotome caché*, which consists of two blades, arranged so as to cut at the same time, both right and left in withdrawing the instrument from the bladder. The catheter is introduced and the membranous portion of the urethra cut to allow the introduction of the *lithotome* into the bladder. On withdrawing the instrument it is opened, by which means it divides the prostate on each side into halves the one anterior, and the other posterior. By this method, the vasa deferentia, rectum, transverse arteries of the perineum, and the pudic is avoided in the operation. M. Dupuytren operated a few days ago on a child: since which no bad symptom whatever has appeared.—*Lancet*, June 21, 1902.

Glucose in Urine of Low Specific Gravity.

The following from Dr. S. W. Carruthers, of Cornhill, appears in the *British Medical Journal* of June 24, 1902:

It used to be the custom with some insurance companies not to require an examination for sugar in the urine unless the specific

gravity were high. It is well known that sugar may be present in more than mere traces with a perfectly normal specific gravity, or even with one that is slightly subnormal.

In an insurance case the other day I found the specific gravity of the urine to be barely 1004 when newly passed; it rose to 1007 after it had cooled down. I was astonished to get a very marked reaction with Fehling's solution, so marked that after standing for ten or fifteen minutes there was a copious precipitate of red cupric oxide at the bottom of the tube. I confirmed this result with the safranine test, and then proceeded to the phenylhydrazine hydrochloride method, obtaining plentiful and typical crystals of glucosazone. The urine was unfortunately thrown away without my making a quantitative examination as I had intended, but there was no doubt as to the amount being very considerable. I have once before had a distinct reaction with Fehling's solution in urine with a specific gravity of 1005, but was not able on that occasion to do more than assure myself that the Fehling's solution was in good condition, and had no opportunity of confirming the presence of glucose by other tests.

Bilobular Stomach with Extreme Tension of the Cardiac Pouch.

Bouveret (*Lyon Médical*, March 16th, 1902) records a case in which the dilated cardiac pouch of a bilobular stomach was mistaken first for hydatid cyst of the spleen, and afterwards for dilatation of the whole stomach consequent upon pyloric stenosis. His patient, a woman 45 years of age, had suffered at intervals for fifteen years from pain after food and vomiting. For two years and a-half she had known of the existence of a swelling in the left flank, which enlarged slowly. For eight days she had vomited everything taken. On examination, the left flank was found to be occupied by a large tumour which caused the abdominal wall to project from the thorax to the iliac crest. Pressure upon the thoracic organs was shown by difficulty of breathing and rapidity of the pulse. The tumour was uniformly dull to percussion, and evidently contained fluid. The tumour was diagnosed as a unilocular hydatid of the spleen, and as it was thought to be on the point of rupture, was tapped. The fluid obtained resembled the vomited matter, was greyish in colour, contained hydrochloric acid, and under the microscope showed the presence of yeast, starch granules, and epithelial cells. The patient improved rapidly after the puncture. The tumour reappeared a month later, and was again confined absolutely to the left side. The use of the stomach tube caused it to disappear, but insufflation reproduced it, the gas

passing on into the intestines in a few minutes. The patient declined operation. She was readmitted into hospital some weeks later in a moribund condition, and at the necropsy a bilocular stomach was seen, the mediogastric narrowing allowing very little communication between the two halves of the stomach. Bouveret concludes that the stomach tube should be used before making a definite diagnosis of cystic tumour of the upper part of the abdomen.—*Brit. Med. Journ.*, May 31, 1902.

Extrauterine Pregnancy after Treatment for Sterility by Uterine Drainage.

Gill Wylie (*Amer. Journ. Obstet.*, April) bravely admits that in 4 cases of sterile women under his treatment in 1900, extrauterine pregnancy followed dilatation of the uterine cavity, curettage, and prolonged use of the hard rubber drainage tube. In one case tubal pregnancy began three months after conclusion of the treatment, in the others about a year elapsed before rupture of the tube recalled the abnormal gestation. In the first 3 cases there was the usual pain, diagnosed in 2, however, as due to inflamed appendix; in all an operation was successfully performed. The fourth was specially remarkable as there had been a previous pregnancy in the opposite tube, for which the patient consulted Gill Wylie. She had borne no child. He examined the pelvis, detected a mass on the right side, operated, and removed an ectopic tubal sac. For a few months afterwards she was kept under treatment for sterility. In June, 1901, her period ceased and hæmorrhage occurred. No physical sign of tubal gestation could be accurately defined, but a few weeks later the patient when dining at a restaurant was seized with characteristic symptoms, including hæmorrhage. Abdominal section was performed and ectopic gestation detected. Gill Wylie declared that there was no danger in drainage of the uterus by the hard rubber tube; he has employed it for over twenty years and never with any evil result. He takes every precaution against sepsis. The patient is kept quiet for about five days, and there is no more irritation than is caused by the wearing of a hard rubber plate in the mouth. The perils of the old stem pressary are understood and avoided. As a rule, pregnancy perfectly normal in character followed the drainage treatment. G. Harrison and Clement Cleveland, in a discussion on these cases, expressed their objections to this method of treatment of sterility, but considered that it was not necessarily the cause of the tubal pregnancy in all, or even any, of the four patients.—*Brit. Med. Journ.*, May 31, 1902.

Foreign Bodies Accidentally Left in the Abdominal Cavity.

Schachner (*Ann. Surg.*, November, 1901) publishes brief abstracts of 155 records of the accidental retention of foreign bodies in the abdominal cavity after laparotomy. Of these records 101 were collected by Neugebauer, and 44 more recently by the author of this paper. Accidents of this kind it is held are of frequent occurrence, and are likely to be repeated as long as surgery is practised. The foreign body if of an aseptic character is encapsulated by a fibrous exudate, and subsequently enclosed within adhesions between the different abdominal viscera, or the viscera and the abdominal wall. Spontaneous expulsion of a foreign body takes place through points of least resistance, which are either the alimentary tract or an imperfectly united wound, or, less frequently, through the reopening of an apparently well organised cicatrix. A foreign substance may remain quiescent for years in the abdominal cavity and fail to give any signs of its presence. Symptoms when they occur not infrequently suggest a low and protracted form of sepsis, and, in some cases, indicate the most violent intra-abdominal disturbance. These accidents, which can in some instances be the results of unexpected circumstances, unusual complications, and diverted attention may, the author hopes, be reduced in the future by the observance of the highest degree of simplicity, system, and watchfulness. In other vocations, it is pointed out, it is reasonable to assume that, unless properly prepared one should not act; but in surgery one is occasionally compelled to act, even though it is evident that one is not prepared. In such conditions the results of surgical abstention would be more fatal than an endeavour to make the best of the circumstances.—*Brit. Med. Journ.*, June 7, 1902.

Repeated Extauterine Pregnancy.

W. Philipowicz (*Wien. klin. Woch.*, No. 13, 1902) relates the following clinical history: On May 24th, 1898, the patient, aged 30, was admitted into hospital. The past history revealed what the patient believed to have been an abortion in the third month three months before. There had been a bloody discharge since the severe hæmorrhage. On examination a resistance was felt above the symphysis, and chiefly to the right. The cervix was patulous, and the uterus slightly enlarged. There was colostrum in the breasts. On June 4th laparotomy was performed, firm adhesions between the tumour, and the abdominal wall, spleen, and intestines were found. The patient's condition forbade a prolonged operation, and therefore the tumour was opened, and an 8 cm. long fetus (macerated) was

removed. The placenta was removed, and the cavity plugged with iodoform gauze. Recovery was uneventful. On December 3rd, 1900, the patient was again admitted. The menses had been regular since her discharge up to two months before. Two weeks previously there had been vomiting and abdominal pain, and complete retention of faeces and flatus had lasted for two days. In the left parametrium a tumour of the size of a fist was felt. The uterus was slightly enlarged, the cervix patulous, and colostrum was discovered in the breasts. A few days later there was moderate haemorrhage from the vagina. Eleven days after admission the patient agreed to operation. On opening the abdomen fresh and old blood clots were found free in the pelvis. On clearing these out a tumour of the size of a child's fist was found in the left tube. The tube and tumour were resected, and the sheath of the rectus muscle divided. The wound was closed in three layers. Healing took place by first intention. In the tumour was found a 6 cm. long fetus. The tube was ruptured close to the fimbriated end. The absence of any adhesions in the abdomen when this was opened for the second time is to be regarded as very unusual.—*Brit. Med. Journ.*, June 7, 1902.

Treatment of Urethral Stricture by Electrolysis.

R. Newman (*Journal of Advanced Therapeutics*, January, 1902) states that during the past thirty years he has treated by electrolysis no fewer than 2,000 cases of urethral stricture, with results which lead him to consider it as the method to be adopted par excellence. His own experience is further supported by records of at least 1,500 cases in the practice of others. The armamentarium needed is as follows:—A good battery, the cells of which can be taken up one by one without any breaks in the circuit; a milliampéremeter; suitable electrodes. A correct and exact diagnosis is of first importance. None but organic strictures are suitable, and there should not be other disease of the bladder, prostate, or urethra. Any acute disease—inflammation, haemorrhage, or discharge—is a contraindication to electrolysis. In treating any particular case, the author first carefully explores the urethra to ascertain the exact size and situation of the trouble. He then selects an electrode about two numbers (French) larger than the stricture, and having seen that the battery is at zero, he connects the positive pole with an indifferent electrode conveniently fixed to the patient, the negative pole being attached to the electrode bougie, which is then carefully passed down to the beginning of the stricture. The current is then gradually turned on, avoiding any production of pain in the patient; about 5 milliamperes are usually

borne without any discomfort, and this strength should seldom be exceeded, the end of the electrode being gently pressed against the stricture, so as to follow the line of the urethra. In from five to fifteen minutes the electrode will have passed completely through the stricture, and may be passed on into the bladder. It should then be gently withdrawn, the current collector being gently returned to zero as soon as the end of the electrode has repassed the stricture. The patient will probably feel immediate relief, and the operation need not in any way interfere with his ordinary avocations. The *séances* should be repeated at intervals of about a week until a full-sized electrode can be passed without the least force or discomfort. In the author's experience the treatment causes no pain or inconvenience, is devoid of danger, whether from hæmorrhage, fever, or other unpleasant complications. It relieves at once, without necessitating any irksome restraint of the patient, and, most important of all, no relapse takes place. Any failures can be traced to either (1) the operator himself, (2) a wrong diagnosis, (3) faulty instruments, (4) meddlesome interference with the patient. It only needs a clear head, steady hand, sensitive fingers, patience, and a small amount of skill and practice in genito-urinary practice.—*Brit. Med. Journ.*, June 21.

Garhwal Hill Plague.

An interesting and instructive report has recently been drawn up under the orders of the United Provinces Government, by Major J. Chaytor-White, on the subject of the *mahamari* outbreak in Garhwal during the months of October and December, 1901. After giving a concise history of the malady and noting the diagnosis of other medical men sent at various times to investigate the exact nature of this so-called "hill plague," Major Chaytor-White proceeds to give an account of his own experiences at Buransai, and the conclusions he arrived at after a very careful study of the local conditions and attending circumstances of the *mahamari* outbreak in that district. The habitat of hill plague is almost entirely confined to that part of the Himalays comprised in the hill districts of Kumaun and British Garhwal, and the surroundings where the disease prevails are picturesque in the extreme. As a reversal, however, of nature's thistle and dock-leaf principle the beauty of the picture is marred by the filthy habits of the people. "The better class," we are told, "wash at the change of the moon, once a month, but the Doms probably never wash." Added to this, the bad construction and situation of their dwellings, which are often surrounded by high hemp plants, obstruct the light and impede the free ventilation of air. But fifth and want

of proper ventilation, though links in the chain of causation, are not sufficient to account for the extraordinary regularity and frequency of the out-breaks. "The recrudescence of the malady," Major Chaytor-White says, "point to the fact that there must be a medium for the specific germ, and that when a certain something is added, and possibly a reincubation in the body of a rat, a revivifying occurs, and the germ becomes active, and the disease breaks out, at first sporadically and then as an epidemic." The custom of the hill people of burying adults dying of cholera or plague for a period of six months, and then exhuming the remains for cremation, is attended with the serious danger that "the bacillus finds a chance of escape and can be conveyed to a distance either by men or animals, and by its passage through the body of a rat becomes widespread and active." Major Chaytor-White has accordingly embodied in the new *mahamari* rules he has drawn up and submitted to Government, an injunction that people should be encouraged to burn "all the dead that die of infectious diseases." The conclusion which Major Chaytor-White finally comes to as regards the outbreak at Buransi is that the evidence of its endemic character "was overwhelming, and admitted of no other possible explanation." To the medical man, however, the most interesting part of Major Chaytor-White's report will no doubt be the account given by him of the bacteriological experiments conducted by himself and Mr. E. H. Hankin on the cultures, which he is the first medical officer to obtain. For the present it is perhaps sufficient to note his opinion that the disease, though more fatal than ordinary plague, "is clinically and bacteriologically identical with plague as known and observed in India and elsewhere, and that it exists at times in all its three forms—bubonic, septicæmic, and pneumonic—in the Kumaun Hills as has been observed elsewhere through the world."—*Indian Lancet*, June 30, 1902.

The value of Benedikt's Syndrome in the Localisation of Lesions of the Brain.

Since Professor Benedikt of Vienna drew attention in 1889 to a group of symptoms, subsequently known as "Benedikt's syndrome," which occurred in lesions of the upper half of the cerebral peduncle, little has been recorded of this condition. Charcot, however, reported two cases in 1890 in which this group of symptoms was present and where the post-mortem findings confirmed the localisation of the lesion diagnosed during life. The symptoms which constitute Benedikt's syndrome are briefly a partial paralysis of the ocular muscles

of one eye and a paresis of the opposite side of the body. In an article in the *Revue Neurologique* of May 15th last Dr. Leon d'Astros and Dr. E. Hawthorn have published a case illustrating the symptoms and diagnostic value of Benedikt's syndrome very clearly. The case was that of a child, aged 21 months, who was admitted to hospital in November, 1901, with oculo-motor paralysis of the right eye and paresis with involuntary movements of the left upper and lower limbs. The right eye remained closed sometimes for hours and could not at any time be fully opened. There were divergent strabismus and mydriasis of the pupil. There was also some spasmodic contraction of the left hand, including the thumb and fingers. The forearm remained in a state of semiflexion and pronation. The most salient feature, however, consisted of oscillations and rhythmic movements of the forearm which varied in amplitude and rapidity, occurring when the patient was awake and ceasing during sleep. The triceps tendon reflex was almost absent. The left leg lay extended and immobile with the toes semi-flexed but the foot showed rhythmic movements of extension or flexion. There was no Babinski symptom. The knee-jerks were exaggerated on both sides. Some degree of left-sided facial paralysis was present. The patient was anæmic and emaciated on admission and gradually grew worse and died on the nineteenth day. The necropsy showed a tuberculous tumour in the upper half of the cerebral peduncle, situated mainly to the right of the middle line. It was embedded in nerve-tissue and came nowhere into contact with the pia mater. Inferiorly it reached to within two millimetres of the upper border of the pons, and superiorly it extended to the ependyma of the third ventricle and involved the substantia nigra and subthalamic tissues. It measured 17 millimetres vertically and 16 millimeters transversely. Dorsally it reached as far as the iter and implicated the oculo-motor nucleus but spared the corpora quadrigemina. The clinical symptoms during life were so characteristic that diagnosis was made of a tumour in the above situation which the necropsy confirmed. A tumour in such a situation is beyond the reach of surgical operation, but the writers have shown that Benedikt's syndrome has a distinct diagnostic value.—*Lancet*, June 21, '02.

CLINICAL RECORD.

Indian.

A CASE OF NAUSEA AND VOMITING DURING MEAL.

By DR. HEM CHANDRA RAY CHAUDHURI, L.M.S.

Babu B. aged 23, came to me on the 8th November, 1901, complaining of a peculiar sensation in the stomach during the last part of his meal. He felt a sensation of pushing up in a certain portion of the stomach and immediately nausea and vomiting followed. The ejected matter did not consist of the whole quantity of his food but of a part only, which gave him relief. Flatulency accompanied his dyspeptic complaint. I prescribed *Borax* 6 for reasons given below. The next day he reported that he was feeling much better than before. *Borax* was continued.

12th November. Reported that he was progressing favourably. The same medicine was continued.

17th November. He complained that he was rather costive, but that most part of his illness has disappeared. *Placebo*.

25th November. It was reported that he was quite well.

Remarks.

In Lippe's Repertory, *Nausea during meal* has : Ang., Bell., *Borax*, Caust., Cic., Cocc., Colch., Dig., Ferr., Jac. car., Kali c., Magn c., Nux., Ol. an., Puls., Verat. Among these *Borax* only is italicised. *Regurgitation during meal* has : Merc., Phos., Sass. Under *Vomiting during meal* there are Dig., Puls., Rhus. Placing aside regurgitation during meal, if nausea and vomiting are taken together then Dig. and Puls. remain to be taken into consideration. This selection takes away *Borax*.

In the Pathogenetic Cyclopædia published by the Hahnemann Society of London, we get under *Symptoms during meal, Nausea*, the following medicines : Aco., Ang., Bell., Bor., Calc. c., Can., Carbo. v., Caust., Chamo., Chin., Cic., Cocc., Colch., Cycl., Ferr., Grat., Hell., Kali B., Lam., Mez., Nux v., Olean., Ol. an., Puls., *Ran. bulb.*, Sabad., Staph., Sulph. ac., Verat. Among these *Ran. bulb.* is italicised. Under *Conditions of Nausea and Vomiting* the same medicines are given but *Ran. bulb.* and *Mez* are italicised.

Referring to Allen's Hand Book of Materia Medica, it was found that *Borax* has nausea during meal, *Mez.* has nausea better from eating, and *Ran. bulb.* also gives nausea better from eating. *Digitalis*, has nausea after eating, nausea with relish of food. *Puls.* has nausea when he wishes to eat, when eating the food was repulsive. As for vomiting during meal no definite symp-

tom is given. The difficulty was to decide between Bor. and Puls. I wanted to try Bor. first, and happily it succeeded well. In *Clarke's Dictionary of Materia Medica* which reached me recently, I find under Borax nausea and uneasiness during a meal; fulness and pressure in stomach with uneasiness and ill-humour, after having eaten fruit (pears and apple.) In the case here reported it was an ordinary diet of rice, vegetables and fish which caused the sensation. The patient could not inform me how the disease first originated. Puls. has nausea and vomiting principally in the evening or at night after eating and drinking, as well as during meal and they often manifest themselves with shivering, paleness of face, colic, pains in ears or back, burning sensation in throat and borborygmi. I hope the respected editor will enlighten us with his views and experience.

[In the early days of our conversion when almost the only guide to treatment was Jahr's *Symptomen Codex* by Hempel, and Jahr and Possart's Repertory, we had a very similar case to the one reported by our esteemed colleague, Dr. Ray Chaudhuri, and we remember distinctly to have cured it with *Digitalis* 6x. In the Repertory we found under *Nausea when eating*: ang. bell. baryt. bor. Carbo v. caust. cic. cocc. colch. dig. ferr. KAL. Magn. c. nux vom. PULS. ruta. VERAT.; under *vomiting when eating*: dig. nitr. puls. rhus. By elimination *Dig.* and *Puls.* only remained. On consulting the *Symptomen Codex* among the gastric symptoms of *Digitalis* we found: "vomiting of the ingesta, with nausea, *while eating*." No such symptom was found among the gastric symptoms of *Pulsatilla*. There were symptoms of nausea and vomiting *after eating*, there was nausea with *inclination to vomit, when on the point of taking food*, but none *while or during eating*. So our choice fell upon *Digitalis*, and a single dose was enough to effect a cure of a most distressing case. If we had to treat such a case in the first instance now, we do not know what we would have done, for the symptom we found under *Digitalis* in the *Symptomen Codex* we do not find in the new translation of the *Chronic Diseases* by Tafel, nor even in the old translation by Hempel. Where Jahr could have got the symptom from we cannot know. That it was not meant to indicate a mere clinical symptom is seen from the asterisk attached to it, by which we are to understand that the symptom is both a pathogenetic and a cured one. This is a puzzle, as is also the case reported by Dr. Ray Chaudhuri. Under *Borax* there is *nausea during meal*, but *no vomiting*, and yet *Borax* cured the case. These two cases have proved the value of the two medicines, *Digitalis*

and *Borax*, in morbid conditions for which strictly speaking we have no warrant from their recorded pathogeneses. The multiplication of such cases must be of value when our provings are necessarily so imperfect, and lead us so to say only half way in the treatment of many cases.—EDITOR, *Cal. J. Med.*]

A DIFFICULT CASE OF SEASONAL DIARRHŒA.

By W. YOUNAN, M.B., C.M. (Edin.)

In the morning of the 9th May I was called to attend Mrs. A. B., a young married lady, who had been suffering since the day before from Diarrhœa. She had been out to dinner the evening previous and had partaken rather freely of Ice Cream. The diarrhœa commenced very early the following morning, but no notice was taken of it the whole of that day, as attacks of diarrhœa were not uncommon to the patient and were invariably the result of slight errors of diet. On questioning her during my visit I learnt that the motions were whitish and watery and quite painless.

I prescribed a dose of a few globules of *China* 200, and, restricting the diet, promised to call in the evening. The patient was no better however, and, as the stools were more frequent, somewhat painful, and attended with nausea and a faint feeling, I gave her a few globules of *Veratrum album* 200. The following morning, to my surprise and disappointment, no change for the better had occurred, the patient having been moved a number of times at night. As there was a good deal of rumbling preceding, and a good deal of flatus attending the discharge of the stools, and as thirst was felt to a certain extent, I gave a dose of *Carbo vegetabilis* 200. The patient got no relief from this prescription either, and during my evening visit I had to find materials for a new prescription. The year before I had treated her for a somewhat similar diarrhœa and cured her very quickly with a single dose of *Bryonia* 200, after *Veratrum* and *Carbo veg.* had done only partial good. The characteristic symptom of *Bryonia*—aggravation on movement and relief during rest—was then markedly present. In the present attack the same characteristic of *Bryonia* was present in a lesser degree. However a similar dose of *Bryonia* was administered and next morning the patient was pleased to inform me that the bowels had not moved during the night but there was a return of diarrhœa on getting out of bed in the morning. I determined to try the effect of a second dose of *Bryonia*, but to no purpose, for when I saw the patient again in the evening she was worse than ever and some of the stools were reported to be involuntary. Thinking of *Arnica*, which had been a valuable medicine to her in the past, I gave her a dose of the 200th potency. It

helped her through the night and removed the involuntary character of the stools. But by morning the patient had a return of her bad symptoms and the stools were large, painless and gushing. A dose of *Croton tiglium* 200 was now administered, but by evening the patient was much worse, the motions were coming every few minutes, they were aggravated by food and drink and attended with burning thirst and excessive prostration. Arsenic and Phosphorus in the 200th potency were administered in turn but to no effect. The case had by this time grown desperate, and the patient a young and very delicate woman, could not have stood it much longer. It was sad to see how remedy after remedy, apparently well chosen, failed to relieve. A medical friend suggested *Magnesia Phosphorica* and then *Sulphur*. The former effected no change, the latter some. At his request a second dose of *Sulphur* was administered about 12 hours after, but the temporary benefit obtained from the drug passed away. A dose of *Mercurius Cor.* 200 was now administered and relieved the patient for a couple of hours only.

I was thoroughly disheartened and feared much for the patient's safety. Turning up *Bœnninghausen's Therapeutic Pocket-Book* under the Rubric, *Forcible (gushing) stool*, I found four drugs in large type: *Croton Tiglium*, *Gratiola*, *Jatropha*, and *Natrum Carbonicum*. The inspiration came to me to give the patient a dose of the last named drug, and in the fulness of the faith in which I asked the patient to join, I administered 2 globules of *Natrum Carbonicum* 200. From that very moment the parching thirst was relieved, the desire for liquid food which tormented the patient all through her illness ceased, and in her excessive weakness she begged for a little iced wine. This was given in very small quantities, and repeated in an hour or two as the effect of each dose was felt by the patient to have passed away. Three or four such doses were administered, and the patient went quietly to sleep at 10.30 p.m. and slept uninterruptedly till 5-30 a.m. the following day. On awaking she had 2 watery motions in quick succession. There was a respite of 5 or 6 hours, and a little milk, which the patient had refused all through her illness, was now taken and relished. (Beef tea was the only food she would take, while the very mention of farinaceous food such as barley and arrowroot would be repulsive to her—all through life she had an aversion to milk). In the afternoon the purging commenced again and there were seven or eight motions in quick succession. My disappointment can be better imagined than described. But a ray of light and hope soon broke upon me when I remembered what the Master Hahnemann taught regarding the reaction of the organism under the action of drugs. My only duty then was to watch and wait upon the single dose of so powerful a remedy that *Natrum Carb.* had proved itself here. I did not wait long nor in vain—for the patient needed nothing further and went into a quiet convalescence. How thankful I felt that day, first to God, then to Hahnemann, His chosen servant, and lastly to *Bœnninghausen* through whose invaluable *Repertory* I have been able to save a young and valued life.

Gleanings from Contemporary Literature.

OBSERVATIONS ON DIET.

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QUANTITY OF FOOD.

The question how much food it is advisable for an individual to consume is one of vast importance to the physician. He may sometimes save a life by entirely withholding food for a time ; very often he may do great good by curtailing the diet of a habitual over-eater ; in other cases, again, the opposite plan of gorging the patient may effect a cure.

At the outset it has to be decided what constitutes the normal allowance of food. Obviously no cast-iron rule, applicable to each and every individual, is available here. The decision will depend upon a variety of circumstances now to be considered. In my remarks on this head I shall assume that the various nutritive ingredients—proteids, fats, and saccharides—are correctly proportioned.

Circumstances influencing the Amount of Food required.

The quantity of food required is largely regulated by the rate of katabolism : the more rapid that this is the larger is the amount of food needed. The rate of katabolism varies with many circumstances, such as age, sex, idiosyncrasy, size, external temperature, and the amount of exercise taken ; consequently these become determining factors.

Age.—The period of growth is characterised by great katabolic activity and a correspondingly large supply of food is demanded during it. This active katabolism is due partly to the fact (to be referred to later) that small animals katabolise, if I may be allowed the expression, more rapidly than large ones and partly to the abounding activity of the muscular system which prevails in early life, but chiefly to the rapid formation of new tissue. Why this latter necessitates very active katabolism cannot be explained. That it does so is evident : the large supply of food required by the constructive process is vastly in excess of the amount which is converted into and retained as new tissue. Evidently the construction of animal bioplasm involves a lavish expenditure of building material ; for consider how small is the daily increase in weight as compared with the amount of food taken : the average yearly increase of weight from birth to the age of 20 years is about half a stone or less than a third of an ounce each day—a quantity represented by a moderate mouthful of food—and this quantity is so insignificant in comparison with the total amount taken daily as to be practically negligible. The abundance of food required by the rapidly-growing individual, say at puberty, is therefore to be explained by the activity of katabolism then prevailing, and not by the quantity actually laid down as new tissue.

The rate of katabolism and therefore the amount of food required remain much the same from the beginning of maturity till the age of 40 years or thereabouts, when they diminish in progressive ratio till the end of life; slowly from 40 to 50 years, more rapidly from 60 to 70 years, until, when extreme old age is reached, katabolism has become so sluggish that a surprisingly small quantity of food is needed. That "old people bear abstinence well" is an observation dating from Hippocrates. To make the aphorism complete it should be added that they "bear excessive eating ill." This is one of the most important therapeutic truths that I know.

Sex.—The male Human needs more food than the female, not only on account of his larger stature but also because he is the more katabolic of the two. The man tends to expend energy and the woman to store it up in the form of fat; he burns the faster. This sexual difference shows itself in the very blood; the man has a larger percentage of chromocytes than the woman, showing that he needs a proportionately larger quantity of oxygen in order to maintain his more active combustion—a fact which one may associate with his comparative freedom from chlorosis; moreover weight for weight, his pulmonary capacity is greater than that of the woman whose smaller respiratory need is further shown by the facility with which she can without discomfort diminish her breathing power by means of the corset. The great contrast between the metabolic activity of the two sexes was forcibly brought home to me by a military display given by a troupe of dusky amazons, with whom were also a few male warriors. The women, in spite of their daily exertions, were all rounded and plump, some very much so, no single muscle showing through the skin, and it was noticed that their movements, though full of grace, lacked energy and "go." The men, on the other hand, were spare, their muscles standing out plainly under the shiny skin, and they, in further contrast with the women, displayed a truly amazing agility, bounding about and whirling round in a most astounding fashion: the women, in short, were essentially anabolic and the men were katabolic. I may here draw attention to the fact that men are apt to be larger meat-eaters than women, just as they are, possibly in consequence of this very fact, more prone to drink alcohol and to smoke tobacco.

Idiosyncrasy.—Some individuals are so constituted as to require more food than others. This may partly be explained by peculiarities of digestion, some digesting and absorbing their food more completely than others and consequently requiring so much the less of it; but it is, I doubt not, chiefly referable to differences in katabolic activity. Some burn off the absorbed food more rapidly than others. Compare the thin, wiry, restless energetic individual with his fat, phlegmatic brother. The one no amount of gorging will fatten and the other a starvation diet will scarcely make thin; in the one the metabolic clockwork is regulated to go fast, so to say, and in the other to go slow. As exaggerated examples of these two types take the subject of Graves's disease and of myxedema. The heightened katabolism in the former case is due to an excess of (perverted ?) thyroid

secretion in the blood, just as the depressed katabolism in the latter disease is due to a deficiency of this secretion. Thyroid secretion, in fact, plays the part of a bellows, causing the vital fire to burn more fiercely and increasing the output of urea, carbonic acid, &c. One can scarcely doubt, in short, that the differences of katabolic activity among normal individuals depend to a large extent upon the activity of the thyroid gland; and we may be sure that there are many kindred influences affecting the rate of katabolism of which we are as yet ignorant.

Size.—Obviously the quantity of food required is largely influenced by the size of the individual. Those of large stature need more than those of small stature; per unit of body-weight, however, they require less, because in man, as in all other warm-blooded animals, metabolic activity tends to vary in inverse ratio to body-weight, for the smaller the animal the larger is its surface in proportion to weight and the greater, therefore, are the proportional loss of heat and the need for food to supply that loss; the mouse requires much more food in proportion to its weight than does the elephant.

External temperature.—The colder the weather the greater is the loss of heat and the more active is the katabolism in order to make good the loss and the greater is the demand for food in consequence. The Esquimaux are said to consume prodigious quantities of food, notably fat. By means of warm clothing man is able to lessen the loss of heat in cold weather and the more effectually that he does this the less will he need to increase his diet. In warm weather, on the other hand, katabolism tends to be depressed owing to the comparatively small loss of heat, and there is a correspondingly small need of food for the generation of heat. Possibly a bracing climate, apart from the influence of temperature, tends to stimulate metabolism; at all events it tends to increase the appetite. An open-air life has the same effect quite apart from the fact that it generally goes along with muscular activity. It is not easy to explain why this is so; possibly more oxygen is absorbed in the open air than indoors and it is probable that the mere impact of moving air against exposed parts excites katabolism by stimulating the cutaneous nerves and by augmenting the loss of heat. Certain it is that rapid motion through the air increases the appetite and in this connexion one recalls the fact that a horse travels better on a hot day against the wind than with it.

Muscle exercise.—Among the influences which determine the rate of katabolism, and therefore the quantity of food required, the degree to which the muscular system is exercised occupies a prominent place. When a person is kept quiet in bed he needs comparatively little food but when his muscles are doing laborious work, as in the case of a soldier on a forced march, he requires a large amount—as much, indeed, as his digestive organs can cope with,—so that it is difficult, if not impossible, for those regularly engaged in laborious work habitually to over-eat, as witness the rarity of obesity among them. The moral to be deduced from this is not only that those who exercise the muscles much need large quantities of food but also

that those who eat liberally should take abundant exercise ; and often the chief reason for insisting on exercise being taken is that the evils of an excessive diet may be counteracted. Those who lead sedentary lives should be constantly on their guard against excesses at the table. On the other hand, the evil effects of a sedentary life may be reduced to a minimum by a spare diet. Accounts are constantly read in the papers of some recluse who, after living for years in one room, finally dies at an advanced age ; and in all such cases it will be found that the diet has been spare, often-times on account of a miserly disposition. Those, and they are many, who are compelled to lead a sedentary life may take comfort from this fact. It is the high living with little exercise that does the harm, not so much the little exercise itself, and it need scarcely be said that these remarks apply especially to middle and late life ; not only is youth the period *par excellence* of muscular activity but also an excess of food is then most easily dealt with ; in middle and late life, on the other hand, there is a growing tendency to sedentariness, while the tissues become less and less capable of coping with a redundancy of food.

CLASSIFICATION OF DIETARIES ACCORDING AS THEY ARE SUFFICIENT, INSUFFICIENT, OR EXCESSIVE.

Food may be sufficient, insufficient, or excessive in quantity. In judging whether a given dietary falls into one or other of these categories the physician cannot, of course, rely solely on the mere weight of the food consumed ; for on the one hand, a diet which is considerable as tested by mere weight—such as a purely vegetarian one, for instance—may be deficient in some nutritive ingredient, and, on the other hand, a diet which is small in weight—such as a purely animal one—may be excessive in another ; but, as already observed, I shall assume in discussing the subject of the quantity of food that the various nutritive ingredients are correctly balanced.

A Sufficient Diet.

By a "sufficient" diet I mean one just sufficient to maintain the normal body-weight ; a diet which falls short of this is "insufficient" and one which goes beyond it is "excessive." It has, then, to be decided what the normal weight is. This cannot be done in the case of the growing individual whose weight is constantly changing, but here instinct affords a sufficiently accurate guide as to the amount of food that should be consumed, always provided—and the qualification is an important one—that it is plain and wholesome. If the food-supply is not sufficient there will be unmistakable evidence of it in the shape of defective growth and nutrition ; and if it is in excess, well, no great harm is likely to follow, except in the case of babies, to which reference will be made in due course. It is chiefly in the case of the adult that it is needful to have a precise test as to what constitutes a sufficient diet. Now the normal weight of an adult I take to be *the minimum weight consistent with the best health of which the individual is capable*. In order to ascertain this the physician, in the case of a stout person, curtails the diet and cautiously diminishes the weight until he is

satisfied that any further reduction would be harmful ; while, on the other hand, in the case of a thin person who is ailing, he increases the diet and the weight until he believes the highest level of health to be reached. When he has obtained the approximate normal it may be needful still further to reduce or to increase the weight and thus cautiously to feel his way to the actual normal. Some care may be required to get at the right result; as when, for instance, the weight is actually increased by cutting down a diet that has been excessive, an effect which I have more than once seen.

In deciding what is the normal weight due allowances must be made for age, sex, and idiosyncrasy. Middle-aged people may be normally somewhat stout, just as the aged normally incline to leanness ; young women are naturally stouter than young men ; some, again, are by nature thin and others are stout irrespectively of age and sex and so on.

Actual quantity of food constituting a sufficiency.—It is often most useful to determine the actual quantity of food constituting a sufficiency for a given individual—i.e., the smallest quantity on which he can maintain his normal weight—for his health may frequently be greatly improved by raising or reducing, as the case may be, his diet to this level. Such a bare sufficiency can never be reduced without causing harm and may often, in fact, be temporarily increased with advantage. Dr. R. Hutchison, indeed, argues that it is not advisable to supply the organism with a bare sufficiency and that a certain margin of excess should always be allowed.

While the actual quantity constituting a sufficiency in any given case can only be determined by experiment, it is yet useful to have a rough notion of what it is in different classes of individuals. Among those leading muscularly active lives a sufficient diet varies from three to five pounds per diem. A man doing a moderate amount of muscular work takes on an average about three pounds—i.e., 48 ounces—per diem. For a professional man taking little exercise 30 ounces a day constitute a fair average ; this is the amount which Pavy gives as his own daily allowance, thus distributed : eight ounces for breakfast, six for luncheon, and 16 for dinner. The middle diet at Guy's Hospital totals up to 29½ ounces and this for patients who are taking little or no exercise. Some, of course, require much more than this and some appear to do very well on considerably less. These latter cases are valuable as showing on how little food some people can subsist but they must not be accepted as criteria for the many. Individuals of this class are evidently endowed with very efficient powers of digestion and in addition probably belong to the anabolic temperament, and, as would be expected, most of them are past middle life when metabolic activity tends to slacken and the food required is an ever-diminishing quantity. The miller of Billericay is said to have lived in vigorous health for upwards of 18 years on a daily allowance of 18 ounces of flour made into a pudding with water, and the celebrated Cornaro, who lived to be nearly 100 years old, limited his diet to 12 ounces daily (made up of yolk of egg, soup, meat and bread) together with 14 ounces of wine. I have myself met with cases

in which the daily diet has been no more than this. Thus a lady, aged about 50 years, has lived for years on a diet somewhat as follows : breakfast and tea, two thin slices of bread-and-butter and a cupful of tea ; mid-day meal, a small plateful of meat and vegetables, a small helping of pudding, a small piece of bread, and a glassful of ale. This lady would probably enjoy more vigorous health if she ate more but she declares that this diet is all-sufficing. The following is the diet of a plump and cheery old woman aged 84 years ; breakfast, two thin slices of brown bread-and-butter, and one cupful of tea ; dinner, a thin slice of bacon and three or four potatoes ; t.e.a, two slices of thin bread-and-butter and a cupful of tea ; and supper, a slice of bread about one-third of an inch thick and a piece of cheese of "about the size of a penny." She has always, she says, been a small eater and people often tell her that she does not eat enough "to keep her going," but the food she takes satisfies her and she never feels any craving. The most remarkably young old man whom I have ever met consumes every day about four ounces of bread, three ounces of bacon, two ounces of meat, two ounces of sugar, one ounce of butter, and half a pint of ale. He lives in London and his food and beer cost him about 8d. a day. Dr. Keith, who is so well known for his forcible advocacy of slender rations both in health and disease, has for breakfast two or three ounces of bread, a quarter of an ounce each of butter and preserve, and half an ounce of fish or a quarter of an ounce of bacon ; for lunch a cupful of cocoa or chocolate or a small tumblerful of milk, two or three ounces of bread, and about a quarter of an ounce each of butter and preserve ; at 4 P.M. a small cupful of tea and sometimes biscuit or cake ; at 7 P.M. soup and three ounces of white fish with a potato and another vegetable (if no fish, one or two ounces of lamb, game, rabbit, or tripe, but often neither fish nor flesh), a fair helping of some sweet or, instead of the latter, celery, cheese, oatcake, and butter. "On this diet," writes Dr. Keith, "I enjoy the best of health, and for my age (78 years) am up for a fair amount of exercise, walking three to six miles daily in good and sometimes in bad weather, and usually part of this is up a steep road with a rise of 250 feet. I never feel what can be called hunger, and have not done so for many years. I could omit a meal at any time without discomfort. This I have long looked upon as the best proof of a perfect digestion." Mr. van Someren finds that he can maintain good health on a very small quantity of food and he has brought forward evidence to show that by thoroughly masticating and insalivating the food nutrition can be maintained on a smaller quantity than when mastication is imperfect. This one can well believe, for efficient mastication facilitates digestion and the more perfect the digestion the more economically are the nutritive ingredients dealt with by the organism. Other things being equal, the more perfect the digestion the less is the quantity of food needed ; and, indeed, as Dr. Keith observes, when digestion is perfect a meal can at any time be omitted without discomfort. This helps to explain how it is that one can educate oneself to subsist on smaller and smaller quantities of food. If a person who has

been accustomed to eat an excess of food suddenly diminishes his daily allowance he may complain that he is being starved, that he feels "faint for food," and that he needs more food "to support him." His entire organism, but especially his digestive system, has become so accustomed to a copious diet that it cannot quickly adapt itself to the sudden curtailment. Above all he misses the mechanical stimulus of a large mass in his alimentary tract, just as he misses the chemical stimulus of the food; the morbid craving for food which the excessive eater is so wont to suffer from is indeed rather a craving for this mechanical and chemical stimulus than for nutriment and is exactly analogous to the drunkard's morbid craving for alcohol and to that of the opium-eater for opium. But by education the excessive eater can overcome this craving and his system can acquire such habits of economy as to make comparatively little go quite as far as a superabundance. This economical disposal of food is doubtless chiefly effected by the digestive organs, though it does not seem improbable that the tissues generally may be educated into thrifty habits.

How to reduce a sufficient diet to the minimum.—The quantity of food constituting a sufficient diet varies, of course, with circumstances. Now there are occasions when it is necessary to reduce the dietetic requirements of the body to a minimum, as, for instance, in grave affections of the heart, the lungs, or the kidneys, when it is desirable to give the failing organs as little work to do as possible. For this purpose the physician seeks to obtain the completest possible quiescence of the muscle system and to reduce the loss of heat to a minimum. He keeps the patient in bed, tells him to lie quiet and to relax his muscles to the utmost; he maintains a warm temperature in the room, gives all food and drink warm, and covers the entire body, save the head, with some light, non-conducting material; it is necessary that it should be light so that it may not impose unnecessary work upon the respiratory muscles. Old age, the female sex, and a sluggish metabolic habit are most favourable for the reduction of diet.

An Insufficient Diet.

Evils resulting from an insufficient diet.—The evil results of an insufficient diet—and here I refer essentially to an all-round insufficiency of proteids, fats, and saccharides—are too well known to need more than a passing notice. They are emaciation, anæmia, indigestion, nervous prostration, and mental depression, with lowered vitality generally and diminished resistance to disease. It is well, by the way, to observe that the requirements of nutrition are not necessarily satisfied by an abundant daily supply of food; that supply needs to be properly distributed in time, otherwise there may be temporary starvation, for though the organism is capable of storing food so that it can draw upon it in time of need, the capacity for so doing is, except in the case of fat and that in certain individuals only, very limited. Most of the energy expended by the organism is, in fact, derived from the food recently taken and it is therefore desirable that the intervals between meals should not be too long. This precaution is above all needful in the case of proteids which admit of only a very limited storage, being

rapidly katabolised and-eliminated as urea and allied bodies. Suppose, for instance, that the bulk of the daily proteid is consumed at the late meal, say at 7.30 or 8 P.M., a large part of it is katabolised and run out of the body before the next day is reached, as shown by the rapid rise in the output of urea shortly after the meal ; there is thus a deficiency of circulating proteid to start the next day with, and hence care must be taken that a fresh supply is obtained at breakfast and midday. The amount can then be reduced at the late meal and nutrition can be maintained on a smaller amount than is otherwise possible. It is somewhat remarkable, in view of the comparatively small storage power which the animal organism has for proteids, that the carnivora should subsist for the most part on one meal in the 24 hours.

Ability of the organism to withstand starvation.—But while recognising the limit beyond which insufficient diet becomes starvation the physician should ever bear in mind that life can be sustained for a considerable time without any food whatsoever—especially after maturity is reached—if only the individual is well nourished to begin with. The public have a great idea of “keeping up the patient's strength” and believe that the most effectual way of doing this is to cram as much food as possible down his throat. They fail to realise that a person, especially if kept warm and quiet in bed, can go on living for a considerable time absolutely without food and that this period can be greatly lengthened by giving very small quantities daily. One constantly sees patients living quite comfortably on nutrient enemata alone and although it must not be too readily assumed that such patients are being completely nourished—for they may, as Hutchison observes, be living to a large extent upon their own tissues—the fact remains that life may be sustained for quite a long time on a very small amount of nutriment. It is, in sooth, no easy matter to kill a patient by starvation. I have in mind the case of a middle-aged man who lived for three months on a pint of milk a day and that while he was up and about. It is well to keep this fact in mind when there are urgent reasons for curtailing the diet or, it may be, for withholding it altogether for a time. I sometimes smile at the alarm expressed both by the patient and his friends when I tell some overfed, elderly sufferer from bronchitis who is being suffocated by a superfluity of fat that he could live for some days—and that with advantage—without any food at all. Such patients do not die from starvation. How many do ?

How long life can be sustained without food has been shown by the experience of professional fasters. Death from starvation does not generally occur until the body has lost one-third of its original weight—until, e.g., a 12-stone individual has been reduced to eight stones.

Excessive Dietary.

Inducements to over-eating.—Animals in a state of nature are little likely to over-eat—first, because their constant search after food entails a highly active life and this demands a correspondingly large supply of food ; secondly, because their food, except in the case of the carnivora, is seldom

in a highly concentrated form ; and, finally, because it is of such a simple and monotonous kind that the appetite is appeased when a sufficiency has been consumed ; so that, far from having a surfeit, most animals have as much as they can do to obtain the needful supply. Civilised man, on the other hand, is not only not compelled to lead a muscularly active life, often taking little or no exercise at all, but his food is highly concentrated, consisting largely of such articles as sugar, butter, cheese, and meat, and far from being monotonous it is of a varying kind, and in the case of the well-to-do is rendered appetising by the manifold resources of the culinary art. While, then, it is practically impossible for a wild animal habitually to over-eat the modern Human has many inducements to tempt him to excess and as a matter of fact he often yields to them.* In this respect men are greater sinners than women.

Extreme instances of over-feeding.—Some remarkable instances of gourmandising have been placed on record, but how far they are legendary and how far genuine it is difficult to say. They are told chiefly of the inhabitants of cold climates. The Esquimaux, it is said, eat as much as 20 pounds of flesh and oil daily. We have it on the authority of Sir George Simpson that two Yakuti men ate at a sitting 36 pounds of beef and 18 pounds of butter each. He remarked that "after such surfeits the gluttons remain for three or four days in a state of stupor, neither eating nor drinking, and meanwhile are rolled about with a view to promoting digestion."

EVILS OF OVER-EATING.

Over-distension of the stomach.—One of the immediate effects of a surfeit is undue distension of the stomach which may not only cause organic dilatation of this organ but, by thrusting the diaphragm upwards, compress the lungs and dislocate the heart, disturbing its action even to the point in extreme cases of checking it altogether. Those with failing hearts or feeble breathing power should beware never to overload the stomach ; their maxim should be "little and often." Meals that are few and far between are apt to be unduly bulky. When, for instance, only one meal is taken in the day the individual, especially if leading an active life, is compelled to consume at one sitting more food than the normal stomach can hold and dilatation is the necessary consequence. Moreover, this large mass of food makes such demands upon the digestive organs as to render the individual for the time being lethargic and inert. The one-meal plan also leads to wastage, for when a large quantity of food is taken at once and the blood is surcharged with nutriment much of it is, as already hinted, apt to be katabolised as so much useless excess in the hours immediately following the meal. It is a fact, however, that many races subsist on a single daily meal. This is the case with the majority of the natives of India and doubtless the system is suited to their requirements, though one would have thought that the bulkiness of their diet, which is mainly vegetarian, would constitute a serious objection to the custom. But whatever may be true of certain of the inhabitants of warm climes the fact remains that the plan of taking but one meal a day is not suited to the average European. For him three meals during the 24 hours would appear to be on the whole the wisest arrangement.

A further word on the subject of over-distending the stomach. It has to be noted that a diet may cause undue distension of the stomach without being excessive—namely, by containing a large quantity of non-nutrient substances, as in the case of green vegetables, or by causing flatulence. Accordingly, when it is desirable to distend the stomach as little as possible we prescribe concentrated foods and such as are least likely to cause flatulence, and we forbid the drinking of large quantities of fluids with meals. It is now known that very little fluid is absorbed by the stomach, and consequently when liquid is taken at meal-time it has to wait for the food

to be digested before it can escape into the duodenum, thus adding materially to the bulk of the gastric contents. Fluid taken with meals may also retard digestion by diluting the gastric juice, though it is doubtful whether much harm is done in this way. It is, moreover, often used as a means of softening the food and washing it down, and may thus do harm by encouraging the individual to shirk mastication. For these reasons liquids should for the most part be taken on an empty stomach, say half or three quarters of an hour before meals, so as to give time for them to leave the stomach before food is eaten. Hence, too, the advantage of giving aperient salines on an empty stomach—e.g., the first thing in the morning.

Excessive storage of fat.—The most obvious evil result of chronic over-eating is obesity. In some cases obesity is a disease—e.g., in myxœdema and in certain obscure diseases of the nervous system in which there may be a phenomenal laying on of fat. I have seen two such cases in children. In the majority of instances, however, it is due to over-eating. We have seen that the amount of food required is governed by several circumstances of which the most important is the amount of exercise taken, and as might be expected the obese person generally takes very little. Those who exercise their muscle system a great deal are but rarely obese; I do not remember ever to have seen a fat postman and a fat navvy is rarely met with. Let the fact then honestly be faced by the obese that except in those rare cases which are due to disease inordinate fatness is due to over-eating and should be met by apportioning the diet to the needs of the individual.

Evils in connexion with the Blood and Circulation.

The digestion of food imposes extra work on the heart by the increased activity of the splanchnic circulation which it entails, and when a large quantity of food is taken there is a substantial augmentation of cardiac action. If, therefore, we are dealing with a case of grave cardiac failure where it is of paramount importance to save the heart as much as possible we see how imperative it is that we should administer food sparingly. An excess may, moreover, as we have seen, disturb the action of the heart both by distending the stomach and by inducing obesity. It may also affect it, as we shall see in due course, by increasing peripheral resistance and through its influence on respiration.

Plethora—Just as starvation tends to impoverish the blood and to diminish its mass, so may over-feeding cause excessive richness of the blood, and perhaps also augmentation of its mass. Cohnheim denied the possibility of the latter, but, be this as it may, it is certain that the condition known as plethora, characterised by vascular turgescence of the face and often accompanied by a feeling of fullness in the head, giddiness, and other symptoms, all of which are relieved by bleeding, may result from chronic over-eating. Whether there is an actual augmentation of the blood-mass in these cases, or whether, as some think, the condition is rather one of arterial plethora due to high peripheral resistance with a powerfully acting heart, is a question which we need not stop to discuss.

Anæmia.—Curiously enough, over-eating may lead to the opposite condition, anæmia, not indeed to a diminution of the blood-mass (oligæmia), but certainly to a defective condition of the chromocytes. It is now known that these are very susceptible to the action of toxins which, as we shall see, are apt to abound in the chronic over-eater, and possibly the blood corpuscles suffer from their action. Certain it is that some patients improve in colour when their diet is cut down.

Evils in connexion with the Respiratory Function.

The influence of over-eating on respiration is not less important than is its influence on the circulation. The obesity which it so frequently causes seriously interferes with the respiratory movements. A distended stomach, moreover, thrusts the diaphragm upwards and thus restricts the breathing

area. Over-eating also affects respiration by its influence on the heart ; by its stimulating action on the splanchnic circulation it stimulates the respiratory movements, and it may further augment these movements by disturbing the action of the heart and hindering the movement of the blood through the lungs. Respiration is affected by over-eating in yet another way, one which seems to have been overlooked : Every particle of food which is absorbed and does not go to increase the weight of the body and is not eliminated unkatabolised, as sugar or albumin, has to be burnt off within the organism, and this very soon after absorption. Now this combustion of food requires oxygen and one of the products of combustion is carbonic acid. It follows from this that the larger the amount of food ingested and absorbed the larger is the demand for oxygen and the larger the quantity of carbonic acid produced—in other words, the greater the respiratory interchange and the more ample the respiratory movements. The application of these facts in the treatment of dyspnoea will be referred to in its proper place.

*Evils due to Faulty Metabolism either in the Digestive Tract
or in the Tissues.*

Before discussing these it will be well to trace the career of the redundant food through the body. When a redundancy of food is taken an excess of nutritive ingredients is absorbed into the blood ; some—e. g., albumin and sugar—may pass out by the kidneys unchanged, but, except in disease, this only occurs after large surfeits ; some may be stored, but it is only in the case of fat that this takes place to any extent, the capacity of the organism to store proteid and saccharide being very limited ; in many individuals even the fat-storing capacity is small ; in all the limit is reached sooner or later. It is, therefore, evident that dealing with individuals in the aggregate only a small proportion of the total excess of absorbed food is stored.

What then becomes of the excess which is neither stored nor passed out of the body unchanged ? The reply is, it is katabolised—i.e., the organism is put to the profitless task of burning off the excess of fuel with which the body fluids are charged, the fats and saccharides being converted into carbonic acid and water and the proteids into these and likewise into urea, uric acid, kreatin, and allied compounds. This extra katabolism takes place chiefly in the muscles,

Does it not seem strange that the organism should be put to all this labour ? Theoretically the most perfect arrangement would be for just so much food to be absorbed from the alimentary tract as is needed, but, though when an excess of food is ingested absorption is less complete than with a bare sufficiency, far more than the needful quantity is nevertheless absorbed. It is not surprising that the organism should possess some capacity for absorbing nutriment beyond the needs of the moment. All animals are liable to experience seasons of dearth, and it is of advantage that they should be able in times of plenty to absorb food beyond present requirements, and so store up supplies for future contingencies. It is, however, not so easy to explain why after this provision has been made the capacity to absorb an excess of food should still continue. Nature has apparently made no provision against a chronic *embarras de richesses* in the matter of food ; and instead of altogether refusing to absorb a quantity of nutriment in excess of present and future needs, or, after having absorbed it, simply running it out unchanged, she goes through all the labour, not only of absorbing, but of katabolising the redundancy.

We may perhaps explain this apparent anomaly by the fact, already referred to, that under primitive conditions animal organisms are little liable habitually to over-eat. But whatever the explanation may be, certain it is that the animal organism is not only capable of absorbing a redundancy of nutriment, but, having done so, goes through the laborious process

of katabolising it. This stands out as one of the most remarkable facts in the physiology of nutrition. For observe what this redundant katabolism implies. We are apt to lose sight of the fact that every katabolic change is attended by an unlocking of energy ; hence redundant katabolism implies a wasteful expenditure of energy. What form does this surplus energy assume ? The reply is that it takes the form of heat. All, or practically all, the energy of the organism manifests itself either as work or as heat, most of the former being converted into the latter within the body and passing off from it as such ; thus all the "internal work" (movement of the heart, &c.) of the body is converted into heat and when a person is resting the whole of the energy unlocked by katabolism is dissipated in this way. From this it follows that all the energy set free by the redundant katabolism resulting from over-eating leaves the body as heat and that the larger the amount of food absorbed the greater is the amount of heat given out. Gourmands, therefore, must emit more heat than spare-eaters and this involves either scantier clothing or increased evaporation from the skin and lungs. As a matter of fact big eaters are generally big sweaters.

There is yet another aspect from which we may view this superabundant katabolism with its corresponding evolution of energy. Just as chronic starvation leads to lack of energy, producing listlessness and apathy—Mr. Bumble, it will be remembered, well knew that the half-starved inmates of his union had *little stomach* for fighting—so, conversely, chronic over-eating is apt to cause trouble by leading to an undue accumulation and evolution of energy in the body, and in such cases the surplus energy may seek outlets in abnormal ways, such as in fits of irascibility and hysterical convulsions. The desire of the irascible man to break the furniture and of the hysterical woman to scream and rush wildly about must surely be exaggerated by the storage of an excess of energy in the body. I do not want to over-estimate this as an exciting factor—other factors, such as toxæmia, play their part—but it must certainly be conceded that surplus energy is apt to find an abnormal outlet. If a well-fed horse is not taken out to exercise he will kick his stable down and over-fed, be incited to insubordination. These considerations suggest that when an individual has a tendency to convulsive seizures we must be carefully to keep his diet within due bounds.

We have now to inquire whether the redundant katabolism of the large eater is the same in kind as the katabolism which is not redundant.

There are strong grounds for assuming that when a large excess of fuel has to be katabolised the end-products are not quite the same as when only a sufficiency is taken. The excess is in the main katabolised by the muscles while in a state of quiescence ; it is not, i.e., worked off in the katabolism which issues in muscle contraction. Whatever fuel is thus katabolised does not constitute part of the excess, inasmuch as it is used up in the performance of a normal function to which it is essential. Now, it is probable that the waste products of a muscle at rest are not altogether the same as those of a contracting muscle ; possibly they are not so completely oxidised and they would appear to be more toxic in character ; hence, the absorption of an excess of food not only leads to the production of an excess of poisons, but of poisons more than usually toxic. And this brings me to another point.

Evils due to Toxæmia.

There can be no doubt that the most serious results of over-eating are brought about by blood-poisoning or, as we now call it, "toxæmia." The extra katabolism which over-eating induces leads to an excess of poisonous waste-products, and it is probable, as we have just seen, that many of these are more toxic than are those which are formed when the food is kept within normal limits. Over-eating further tends to cause toxæmia by set-

ting up indigestion. There is no sharp dividing line between normal digestion and indigestion ; as with all other functions there are innumerable grades of efficiency, and it goes without saying that digestion is more likely to reach a high grade of efficiency when a mere sufficiency of food is taken than when the quantity is excessive. Now the more efficient the powers of digestion the fewer are the poisons produced in the alimentary tract and the less their absorption into the blood. It is, therefore, manifest, and I cannot too strongly insist on the fact, that if we desire to keep down the toxicity of the blood we should zealously guard against excesses in eating.

The toxæmia of over-eating induces a multitude of evils, the chief of which we now proceed to consider.

Inflammation.—If not the sole, certainly by far the most potent, cause of inflammation is chemical irritation. It is difficult to point to a single instance of inflammation in which this factor can be eliminated from causation. We now know that the most violent mechanical injury, such as the cut of the surgeon's knife, does not cause it in the absence of pathogenic micro-organisms, and, further, that the inflammation due to micro-organisms is wrought by the toxins which these emit. Probably most cases of inflammation are due to toxins thus arising. In other cases the toxins causing inflammation are furnished by tissue metabolism, as in the pleurisy and pericarditis of Bright's disease, or they may be introduced as such into the body, as in the case of corrosive, alcoholic, and arsenical poisoning. When we total up all the cases of inflammation induced in one or other of these ways we find that for all practical purposes we have exhausted the list.

Gastritis and enteritis may be placed first among the many toxic inflammations due to over-eating. Over-eating by disturbing digestion leads to an undue formation of toxins, which by their direct action set up inflammation in the lining membrane of the alimentary tract. A familiar instance of inflammation thus induced is the condition known as consumption of the bowels met with among children, especially the children of the poor in large towns. It is essentially a toxic enteritis, and, though it results from errors in the quality rather than in the quantity of food I mention it here as it admirably illustrates some of the worst toxic evils resulting from dietetic errors. We are all familiar with these cases ; the abdomen is large and flatulent and the motions are slimy, malodorous, and, it may be, bloody. Examine a child who has been suffering for some time in this way and we shall soon satisfy ourselves that his general condition is as much due to toxæmia as to starvation ; sufficient food may be absorbed, but nutrition is perverted by the action of irritant poisons. The child is ill-grown and anæmic ; the skin is thin, the eyelashes are long and silky, and the complexion is often wondrously like that observed in empyæma, in which disease there can be no doubt about its being due to toxæmia, disappearing as it does as if by magic upon evacuation of the pus. Treves in his work on Struma contends that the majority of the children presenting the so-called strumous diathesis are not the victims of a specific congenital habit but are simply delicate. With this view I entirely agree, and I make bold to add that the delicacy in these cases is essentially an acquired condition, the result in the main of defective feeding leading to toxæmia. If we give a child plenty of sunlight and fresh air, which tend to keep the body generally and the digestive organs in particular, in a healthy state, and feed it on a diet which is correct as to quality but insufficient in quantity, we shall tend to get starvation, pure and simple, without toxæmia, but the condition in this case is very different from that with which we are so familiar as occurring in consequence of a dietary which induces a high degree of toxæmia. I have referred to these cases of enteritis because they show how grave and extensive are the evils which may result from toxæmia induced by dietetic errors.

Let us now revert to the toxæmia caused by gluttony. This may set up inflammation in any part of the body, either directly, or indirectly by lowering the resistance of the tissues to bacterial invasion. In gouty bronchitis, or the bronchitis of children suffering from consumption of the bowels, the toxic action is direct. As an instance of indirect action tuberculous inflammation may be cited. We have seen that the strumous diathesis may result from alimentary toxæmia which causes a diminished resistance on the part of the tissues to the attack of the tubercle bacillus, and I have little doubt that mercury which has long been known to be useful in struma does good by combating intestinal toxæmia. A more striking instance of the indirect action of such toxins in promoting inflammation is shown by its effect on suppuration, now known to be due to the action of specific (pyogenic) cocci. One of the first things to be done in all cases of actual or threatening suppuration—e.g., mammary abscess or styne in the eye, is to administer a purge; and, indeed, it may be said that in all inflammations one of our chief aims should be to diminish gastric and intestinal toxæmia.

Toxæmic inflammations are, of course, most frequent where the toxins are most abundant and, as we should expect, the poisons are most abundantly met with in the organs of elimination, whither they speed in their effort to escape from the body. This they do by all the surfaces communicating with the exterior. We are too much in the habit of thinking of the poisons as being eliminated almost exclusively by the skin and kidneys, but the fact is they get out wherever they can—by the skin, the kidneys and the mucous lining of the alimentary, respiratory, and genito-urinary tracts. We know that drugs may be eliminated from all these regions and the same is true of the toxins of disease. We are all familiar with laryngitis, bronchitis, nephritis, cystitis, urethritis, gastritis, and dermatitis, of gouty origin, and we recognise that they are produced by the poisons of gout, but do we sufficiently realise that there are multitudinous other poisons capable of exciting similar inflammations? Here I may refer to the fact that when once inflammation has been excited by toxins it tends to persist apparently after the toxins have been eliminated, the inflamed areas thenceforth appearing to possess a peculiar attraction for the toxins. How otherwise are we to explain such a case as the following? A man who for years had suffered on and off from arthritic gout suddenly developed bronchitis; thereafter his arthritis disappeared once for all, while the bronchitis continued on and off till his death. The presumption is that the gouty poisons set up bronchitis and that the inflamed bronchial surface thenceforth attracted the poisons which found a ready exit in the abundant bronchial secretion, thus relieving the arthritic phenomena.

Cardio-vascular disturbances.—The toxæmia of over-eating may produce functional disturbances in the heart and arteries, such as palpitation and vaso-motor irregularities, but the chief way in which it affects the cardio-vascular system is by increasing peripheral resistance. This it does by constricting the systemic arterioles, apparently with the object of increasing the urinary flow so as to relieve the toxæmia, the intra-renal arterioles remaining in all probability dilated. As a result the pressure rises in the systemic arterioles, the whole systemic arterial tree, together with the left side of the heart, being subjected to increased strain which eventuates in thickening and degeneration of both. Thus it comes about that the cardio-vascular system wears out sooner in the gourmand than in the spare feeder. Many are the dangers which beset the path of the habitual gourmand, but perhaps the greatest are those pertaining to the cardio-vascular system: he often dies from a prematurely worn-out heart or from the rupture of a milinary aneurysm.

Degenerations.—The toxæmia of over-eating may lead to degeneration in connexion with the inflammations and cardio-vascular changes just consi-

dered. It may also induce degenerations apart from these ; the constant soaking of the tissues with toxins injures the delicate protoplasm, which thus tends to degenerate prematurely, its place being taken by fibrous tissue. Thus over-eating materially hastens that fibroid encroachment which is a natural senile change. As we should expect, the liver and the kidneys are especially apt to suffer ; chronic over-eating causes chronic engorgement of the former organ and imposes upon it an amount of work far in excess of its powers ; it also increases the work of the kidneys and exposes them to constant irritation by the toxins which are perpetually passing out through them.

Gout.—Over-eating is one of the chief causes of gout which is essentially a toxæmia. My own impression is that this disease originates in the digestive viscera and that uric acid is not the essential poison at work in it ; but, be this as it may, it is certain that errors of diet play an important part in its causation. These errors do not merely pertain to kind, but to quantity. We are too much in the habit of simply telling our patients to avoid this and that without insisting upon the importance of keeping the total quantity of food within proper limits.

Nervous disorders.—The toxæmia of over-eating may set up a variety of nervous disturbances, such as headache, giddiness, tinnitus, irritability, depression, drowsiness, lassitude, numbness, flushings, pains about the body, weakness, or even partial paralysis of muscles ; while neuroses of all kinds—epilepsy, angina pectoris, asthma, &c.—tend to be aggravated by it.

Age in relation to Over-eating.

We have next to consider the effects of over-eating as influenced by age, for, as hinted earlier, the element of age comes in here and has an important bearing on the issue. In youth there is greater capacity to deal with excess of food than in old age ; the organs of digestion and excretion are then most vigorous and metabolism generally is most active, the vital fire burning fiercely, so to say, while the restless activity of the muscle system not only diminishes the likelihood of chronic excess, but also helps to mitigate its evils. In old age, on the other hand, there is a growing tendency to quiescence of the muscle system, side by side with a waning in digestive and excretory vigour and an increasing sluggishness of metabolism generally, the vital fire no longer blazing, but glowing and flickering rather and standing in danger of being extinguished altogether by the accumulation of its ashes. Yet at this very time we may find the individual more than ever addicted to the pleasures of the table and with an appetite and capacity for enjoying food altogether in excesses of his requirements, being ever lured to his destruction. I am by no means certain that the use of artificial teeth by the old is an unmixed blessing. It may do harm by encouraging them to eat more food than is good for them and of a kind unsuited to their years. It is noticeable that almost all the old people who live to a great age in country villages—and it is here they reach the greatest age—rely on their toothless gums, and the absence of teeth in the very old may possibly be an indication to a return to the more simple diet of childhood.

We see, then, that the evils of over-eating are greatly influenced by age. During the period of growth, with a reservation to be considered directly, and even during early adult life, they are comparatively insignificant ; it is in middle life that they generally begin to show obtrusively, thereafter becoming more and more insistent with every advancing year. We may sometimes see an old man of sedentary habit—old women less frequently err in this respect—whose appetite and enjoyment of food survive amid the general decay of his physical powers, loading his poor old stomach with the same quantity of food and alcohol as he consumed in the heyday of his active manhood, and expecting his stomach, liver, and kidneys, after some three score or more years of overwork, to achieve the same metabolic

feats as in their prime ; and generally with this result, that he is a curse to himself as well as to those around him. It is true that some can eat abundantly into extreme old age without much apparent harm, but such cases are exceptional. Almost all of Humphry's centenarians were moderate eaters ; he tells us that the great proportion of old people are reported "to have been moderate or small eaters, to have taken little alcohol, and commonly not much meat." I cannot too emphatically impress upon my readers the desirability—nay, the necessity—of keeping the aged on a spare diet. Do not let us extinguish the flickering fire of age by piling on too much fuel.

I have said that with one reservation the young are little liable to suffer seriously from chronic over-feeding. The exception is in the case of infants. I have been long convinced that they are often greatly over-fed, and quite recently Dr. Eric Pritchard has contributed a valuable paper dealing with this important subject. I believe that infants in this country suffer much more from an excess than from a deficiency of food. In the first place the food given them is in a highly concentrated form, consisting of almost pure proteid, starch, and sugar, with very little unabsorbable material ; and it is, moreover, administered in a liquid or pappy form which allows it to pass with a fatal facility into the stomach. The modern infant is often in fact, much in the position of the far-famed Strasburg goose. At a period of life when it is a stationary animal and prevented from working off an excessive dietary by abundant muscular activity (which same activity is but too often still further limited by unsuitable clothing) its digestive organs are burdened with an excess of highly concentrated foods, with results most disastrous to the helpless victim.—*Lancet*, May 24 & 31, 1902.

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DRUG ATTENUATION.

DRUG ATTENUATION is really the most original discovery of Hahnemann. Without it the practice of Homœopathy would have been impossible. But he has left it in such an unsettled state by contradictory statements and by dogmatic unproved assertions that it has brought serious discord among his followers. It has practically divided them into three wrangling sects, and thus brought opprobrium upon the system itself and has deterred many from adopting it. We have in this Journal, on diverse occasions, directly and indirectly, expressed our own opinions on the subject all tending to show that the question is one which cannot be solved by speculation and theory however apparently based upon so-called scientific revelation of the intimate nature and constitution of matter. The only solution possible is from multiplied experience with attenuations honestly prepared by methods beyond the possibility of fallacy. Our readers should understand what we mean by multiplied experience. It is not the experience of solitary instances of cure with this or that attenuation. It is the experience of repeated cures with a particular attenuation and with a particular attenuation alone. Thus, for instance, the advocates of the 30th, of the 200th, or of a higher attenuation,

ought to show that cures are effected with that attenuation and with no other. By attenuations honestly prepared by methods admitting of no fallacy or suspicion we mean those prepared by the strict Hahnemannian method, and not by the so-called method of fluxions with spring or ordinary tap water from service pipes.

For a full understanding of the subject it is necessary that we should have its history before us. As that history has been furnished exhaustively by the late Dr. Jabez Dake in a contribution to the International Convention held in London, in 1881, we cannot do it better than give it entire.

I.—EARLY HISTORY.

Recognising Hahnemann as the author of drug attenuation in the school of medicine of which he was the founder, it becomes us first of all to inquire why and how he came to adopt such a method of dealing with drugs.

1. *Avoidance of aggravation.*

Beginning with the ordinary preparations of pharmacy and with traditional doses, Hahnemann found that a serious aggravation would often precede relief in cases under treatment. To avoid such aggravations he sought a diminution of dose by a method not unknown to the pharmacy of his day. He mixed a given quantity of the drug with a convenient *menstruum*, or neutral material, like alcohol, water, or sugar of milk, by a process of stirring, shaking, or grinding.

Exhibiting a spoonful of this preparation he used but a fraction of the drug matter contained in a spoonful of the original substance.

Observing less aggravation and more prompt relief and better cures, from his diminished doses, he went on with the process of shaking and grinding, using less and less drug and more and more neutral material.

After an experience of five years he had come down to the employment of doses exceedingly minute, compared with those in common use. In his essay upon the "Cure and Prevention of Scarlet Fever," published in the year 1801, speaking of *Belladonna*, he said, "The very smallest dose should be administered."

2. *Diffusion of drug particles.*

It being objected that such small doses had proven ineffectual,

he explained, "Moreover it is probable that the thorough admixture of the few drops with a sufficient quantity of the fluid in which it should be taken was generally neglected."

In this explanation he shadowed forth what, ever afterward, he claimed as an important item in the preparation of medicines, namely, the *diffusion of drug particles in a neutral menstruum*, or, as it has been generally termed, drug solution.

The effectual diffusion or, as he called it, the "thorough mixture" of the medicine with the vehicle, primarily practised to facilitate the division and diminution of dose, came to be regarded by him as a measure for the increase of medicinal power.

3. Increase of drug power.

The increased power was claimed through a better preparedness for absorption and an increased surface for contact.

In view of this development of latent power, Hahnemann taught that the diminution of drug matter was not, to an equal extent, the diminution of drug power. The ratio of diminution, of power to matter, he claimed as *one to four*—that the second attenuation would be one fourth as strong as the first, the third one fourth as strong as the second, &c.

4. Increased susceptibility.

Four years later (1805), in his famous essay "The Medicine of Experience," afterwards expanded into the first edition of the *Organon*, he developed another important item to be considered in the preparation of medicines, namely, the *immensely increased effect of a given dose when homœopathic to the existing disease*.

He said, "An insensible, prostrated, comatose, typhoid patient unaroused by any shaking, deaf to all calling, will be rapidly restored to consciousness by the smallest dose of *Opium*, were it a million times smaller than any mortal has yet prescribed;" and continuing, he declared, "The sensitiveness of the diseased body to the medicinal irritations increases to such a degree, that powers commence to act on and excite it, whose very existence has been denied, because they manifest no action on healthy, robust bodies, nor in many diseases for which they are not suited" (not homœopathic).

The famous Hufeland, in his journal, noticing these exceedingly minute doses, asked the question, "What effect can the hundred-thousandth part of a grain of *Belladonna* have?" In

his effort to answer this urgent question Hahnemann cast about much and studied well to learn the power of attenuated and imponderable things, and especially the relation of drug force to drug matter.

5. *Germ of the dynamisation theory.*

Feeling obliged to put forth some theory to account for what he had asserted to be true, he said, "Medicine does not act atomically but only dynamically." And, in the essay last referred to, he made this explanation:—"The *dynamic* action of medicines, like vitality itself, by means of which it is reflected upon the organism, is almost purely spiritual in its nature."

The explanation we must regard as the germ of the theory of *drug dynamisation*, as contended for by Hahnemann in after years, and as more clearly and fully brought to view in his preface to the fourth volume of his *Materia Medica Pura*, in the year 1825.

He there said, "By the processes of succussion and trituration there ensues not only the most intimate mixture, but at the same time such a great and hitherto unknown, undreamed of change, by the development and liberation of the dynamic powers of the medicines, as to excite our astonishment.

"By means of the processes of shaking and trituration we not only succeed in impregnating, gradually and most intimately, every particle of *unmedicinal substance* with the *power* of the medicine, but also in *developing* that power to an almost boundless extent.

"The fact that the inmost power of a medicinal agent can be infinitely developed by trituration and succussion had never been known heretofore. I have been the first to discover the great fact that the power of liquid medicines can be developed by *succussion*, and that of dry substance by *trituration*, to such an extent that substances which, in their natural crude form, did not seem to have any power, acquire an astonishing medicinal power.

"After triturating one grain of gold with ninety-nine grains sugar of milk, and continuing this trituration up to the twelfth potency, the remedial virtues of gold become roused to such an extent, that a man who was impelled by intolerable anguish to take his life, needs but to *smell*, for a few moments, of such a preparation of gold, in order to recover his cheerfulness and love of life."

This language shows how inadequate all the ordinary theories and facts in pharmacy seemed to Hahnemann, in his effort to explain and justify the exceedingly minute divisions of drug matter and infinitesimal doses resorted to in his practice.

Boldly he stepped beyond the old and generally-approved methods, claiming an important discovery as his own, when he said, "The fact that the inmost power of a medicinal agent can be infinitely developed by trituration and succussion had never been known before. I have been the first to discover the great fact," &c.

6. Importance of the number of shakes.

He no longer advocated the simple and thorough diffusion of drug matter in a neutral *menstruum*, as necessary or sufficient. He began to attach great importance to the number of shakes given. In the preface to the sixth volume of his *Materia Medica Pura* he says, "If we wish to attenuate a drop of sundew (*Drosera rotundifolia*) to the decillionth (30th), but shake each of the bottles with twenty or more succussions from a powerful arm, in the hand of which the bottle is held; in this case this medicine, which I have discovered to be the specific remedy for the frightful epidemic whooping-cough of children, will have become so powerful, in the fifteenth attenuation (spiritualisation), that a drop of it given in a teaspoonful of water would endanger the life of such a child; whereas, if each dilution-bottle were shaken but twice (with two shakes of the arm) and prepared in this manner up to the decillionth attenuation, a sugar globule, of the size of a poppy-seed, moistened with the last attenuation, cures this terrible disease, with this single dose, without endangering the health of the child in the slightest degree."

And, yet more plainly, we see how the importance of succussion increased and of dilution decreased, in the mind of Hahnemann, when he wrote of his preparation of *soda* in the following words: "I dissolved a grain of soda in an ounce of water mixed with alcohol, in a vial which was thereby half full, and shook this solution continuously for half an hour, and this was in dynamisation and energy equal to the 30th development of potency."

In this case the development of power or "Dynamisation" was not effected through an expansion of surface for greater

contact, nor yet by an attenuation of particles, to secure their more rapid absorption, but by the *long and vigorous shaking*.

7. *Conclusions from Early History.*

We thus glean from the fragments of early history, information as to the objects and methods of Hahnemann, in attenuating drugs, which may be summarised thus :

1. Hahnemann desired to lessen the effect of doses by division and subdivision of drug matter.

2. He found that the drug power was not diminished by attenuation in the same ratio as drug matter.

3. He considered the slower diminution of power due to the increased surface for contact, and smaller particles for absorption.

4. Afterwards he accounted, largely, for the manifest influence of his attenuated doses, by the increased susceptibility of the organism to the homœopathic remedy.

5. Then he conceived the idea that vigorous succussion and trituration effected "a great unknown and undreamed of change by the development and liberation of the dynamic powers of the medicine."

6. This succussion and trituration, long continued and performed by a "powerful arm," seemed to him to increase the power of the medicine independently of the increased diffusion through fresh portions of *menstruum*, even to such a degree as to make one drop of the fifteenth attenuation of an ordinary remedy (*Drosera*) dangerous to life.

7. He came, finally, to believe that the dynamic power, the spirit of the drug, might be separated from its material body and transferred to other material bodies, by him termed neutral; or, in other words, that one drop of a drug solution might render every drop of an ounce of pure water or alcohol more powerful than itself, by vigorous and long-continued shaking.

8. And yet, down to the day of his death, Hahnemann had, in a footnote to § 280 of the *Organon*, this statement: "A substance divided into ever so many parts must contain, in its smallest conceivable parts, still some of this substance, and the smallest conceivable part does not cease to be *some of this substance*."

9. In the beginning he used one drop of the drug tincture with five hundred drops of dilute alcohol for his attenuation.

Afterwards he used four hundred drops of the *menstruum*, and again three hundred, and two hundred; but finally adopted one hundred, or ninety-nine to one of the medicine.

10. At first he would have the shaking of the medicine and *menstruum* thoroughly performed, so as to have "the most intimate mixture;" then he limited the work to ten shakes, and finally, to two shakes, as all sufficient.

11. Whereas, in the beginning, he employed exceedingly small doses of the crude drug, as more safe and less powerful than the large, he came finally to the conclusion that "it is self evident that, in proportion as the power of medicine substance is developed by trituration, they ought to be administered in smaller doses;" or, in other words, doses of the thirtieth dilution of a drug should be smaller because more dangerous than doses of the third.

12. Observing the practice of Hahnemann we find that he did not use the higher attenuations exclusively, but frequently resorted to those which his own theories would condemn.

So much for the purpose and methods of Hahnemann in drug attenuation.

(To be continued.)

ANOPHELES AND PALUDISM.

(Translated from the French of Dr. P. Jousset in L'Art Medical for June 1902)

We have in this Journal taken to the study of the question of the transmission of infectious diseases by animals, and in particular that of paludism by anopheles.

Prof. Grassi, one of the popularizers of the opinion which considers the anopheles as the unique and indispensable agent of the transmission of paludism has written: Protect yourself against anopheles, and you can live in an atmosphere surcharged with paludism without any fear of contracting the fevers.

Hence the use of preservative masks and gloves, of metallic nets to prevent the entrance of mosquitos in the apartments, and the efforts of M. Laveran in the search for a microbe capable of destroying the anopheles.

Whether it be the negligence of the people, or whether it be that the anopheles are not as necessary for the production of

paludism as believed it is a fact that the metallic nets have not produced the grand result that was expected, and the microbe destructive of the anopheles has not yet been found. On the contrary two indisputable facts have come into view. 'First, that intermittent fevers have completely disappeared from certain countries formerly infected with paludism and yet that anopheles continue to live and multiply in those countries. How then to explain the disappearance of paludism notwithstanding the persistence of the anopheles?

From these facts follow this reply. The countries whence paludism has disappeared have been so transformed by cultivation. The pools have been dried, the marshes have been drained, the soil cleared, the banks of streams planted with trees, the telluric conditions have been changed, what formerly was called paludian miasm has ceased to be produced, and the fevers have disappeared, although the anopheles continue to multiply and nourish themselves with human blood.

This is the first proof that the cause of intermittent fever resides in certain telluric conditions, that the anopheles are only agents of transmission, and that the only way to abolish paludism is to abolish the marshes and not the anopheles.

Here now is a new fact which goes to corroborate the first: Dr. Montoro of Francisco has undeniably established the existence of malaria in countries absolutely free from anopheles.

The theory which makes anopheles the unique and indispensable cause of the transmission of paludism is upset by these two orders of facts.

We now examine the work of Dr. Montoro of San Francisco.

This physician has demonstrated by the history of different epidemics in the south of the kingdom of Naples, that there exist localities infected with malaria and that in them one does not encounter any anopheles.

According to the first order of facts, intermittent fever develops itself among persons occupied with the steeping of flax in ditches of stagnant water; or again among agriculturists who pass the nights or who remain till a late hour of the morning in the irrigated fields. Although in these diverse circumstances, M. Montoro has found a great number of very grave intermittent fevers he found it impossible to establish the presence of anopheles. :

According to the other category of facts, where anopheles exists and also cases of malaria, the disease is not found to spread. Thus at a certain railway station the wife of the station master had malarious fever for some months, and yet her husband, her five children, and all the personnel of the station were exempt from it.

The author has pointed out other analogous facts, but we do not think it would be useful to relate them.

Here is a last observation which is very convincing.

The town of Cetraro, built in excellent hygienic conditions, never have had any malarious fever, when some convalescents from the neighbouring country came for change of air. This year, on the contrary, the malaria was propagated with fearful rapidity in the town which counted in the last month 2000 victims among the 3000 of its population. The malignant forms were in great number and 78 deaths were registered from pernicious fever. Now, after the most minute search, not a single anopheles could be found in the town of Cetraro. In the environs, the search ended by capturing 21 anopheles, and all of them were recognized as exempt from malarious parasites.

The anopheles then have not been the instrument of this terrible epidemic, and we must search elsewhere than in these insects for the cause of malaria.

The work of Dr. Montoro has established the fact that the exhalations from the waters in which flax was macerated, the air impregnated with humidity especially in the morning and in the last hours of the day, are the principal circumstances for the development of malaria; without losing sight of the view, adds he, that it is the soil which ought to be considered as the chief cause of intermittent fever. This is what we used to call formerly, in metaphorical language, *telluric poison*.

At the commencement of his work, Dr. Montoro objects to the theory of M. Grassi, that the anopheles can never come in as a cause in epidemics of spring fevers. These fevers break out before the anopheles have resumed their activity.

In this connection we remember that the theory of Grassi teaches that the anopheles absorb with the blood of the patients attacked with intermittent fever bodies in process of growth (1st form of sporozoa of Laveran). These bodies become trans-

formed into spherical bodies in the stomach of the insects. Some remain entire,—these are the female elements; others produce flagella,—these are the male elements; and fecundation is effected by the fusion of these two different elements.

The fertilized ovum, endowed with amœboid movements, penetrates the walls of the stomach and produces a spherical cyst in the interior of which are formed a very large number of small pyriform sporozoids. The cyst breaking, the sporozoids are scattered in the body, and by an unknown elective affinity arrives at the salivary glands, and from there returns to man as a sequel of a bite; because this insect has the habit of spilling its saliva in the place bitten to prevent the coagulation of the blood. So that the hæmatozoon of Laveran has two different alternations, man and the mosquito. We add that thirty to thirty-two days are necessary in order that the insect may cause the hæmatozoon to undergo all these metamorphoses.

These very ingenious though false etiological explanations, have the enormous inconvenience of diverting the attention of hygienists from the true measures which are calculated to diminish and finally to cause the disappearance of paludian fevers. The masks, the thick gloves, the wire nettings of doors and windows tried in Calabria on the indications of Grassi, have absolutely never produced any prophylaxis. And we add that the working classes can never be forced to take these precautions.

The true prophylaxis of intermittent fevers, as we have said, consists in the progress of agriculture. It is thanks to this progress that countries infested with malaria have become salubrious notwithstanding that they may continue to be rich in anopheles.

REVIEW.

The Principles and Practice of Homœopathy. By Richard Hughes, L.R.C.P. ED, M.R.C.S. ENG., M.D. (Hon.), N. Y., Phila., St. Louis, U. S. A. Author of "A Manual of Pharmacodynamics," "A Manual of Therapeutics," "The Knowledge of the Physician," "The Cyclopædia of Drug Pathogenesis," &c., &c. Leath & Ross, London, 1902.

A melancholy interest attaches to this work. The illustrious author died after having finished the MS., and only just after having seen half of it through the press. We are glad to learn from the Foreward that the task the "author was destined to leave unfinished" has been completed by his friend, no less a person than the Nestor of the homœopathic branch of the profession, and equally respected by us as by the older branch of the profession as a scholar, author, and man of science, the world-famed Dr. R. E. Dudgeon. Dr. Dudgeon tells us that his "task has been confined to proof-correcting and index-making, so that the reader may be assured that he has the work exactly as it would have been under the author's own superintendence."

The basis of the work is the author's "Manual of Therapeutics," the last (second) edition of which was published so far back as 1878. As Dr. Dudgeon truly says, "it is much more than a revised edition." As we find from a comparison of the number and size of pages of the two works, the new work contains more than double the quantity of matter of the old. "The plan on which it is constructed is the same, but every subject treated of has been, when not entirely rewritten, brought up to the latest date of general medical and special homœopathic knowledge. Dr. Hughes's experience and skill as a physician, and his thorough acquaintance with all medical literature has enabled him to produce a work of cyclopædic character unrivalled in homœopathic literature, and which must long serve as the text-book for homœopathic students and practitioners."

Fully one-fourth of the volume is occupied with the Principles of Homœopathy, in which is given "a masterly account of the origin and development of Hahnemann's method" under the following headings: Homœopathy, its nature and origin; the "Organon;" the knowledge of disease; the knowledge of

medicines ; "similia similibus;" the selection of the similar remedy ; the administration of the similar remedy ; homœopathic practice ; the philosophy of homœopathy ; the history of homœopathy ; the politics of homœopathy. A wide range of subjects, it will be seen, is embraced by these headings, and a full acquaintance with them is essential to a true and just conception of homœopathy, a method of treatment of disease by drugs which as based upon a law of nature, forms the basis of the most successful system of therapeutics as yet invented. The exhaustive manner in which the subjects have been treated furnishes the reader with all available materials discussed from all possible points of view, from which he can start fully equipped for fresh discussion and investigation. We do not say Dr. Hughes has set at rest all controverted points in respect of homœopathy, but he has given a fair and impartial presentation of them from which any one who attentively looks at them can form a judgment of his own. We can only pass in review his treatment of some of these subjects.

As regards its nature, "Homœopathy," says Dr. Hughes, "is a therapeutic method, formulated in the rule *similia similibus curentur*—let likes be treated by likes. The two elements of the comparison herein implied are the effects of drugs on the healthy body and the clinical features of disease ; in either case all being taken into account which is appreciable by the patient or cognizable by the physician, but hypothesis being excluded. Medicines selected upon this plan are administered singly (i. e., without admixture), and in doses too small to excite aggravation or collateral disturbance. I believe that nine-tenths at least of the adherents of homœopathy would accept this as a true account of all that is essential to it. If it be so, it is obvious that the thing with which we shall have to do is a *method*—not a doctrine or a system. It belongs to the art of medicine rather than to its science."

Homœopathy is certainly a method, a rule for the selection of drugs in the treatment of diseases in a particular manner. But to be of practical utility it must be both a doctrine and a system. The application of the method is not at all a simple affair. It has taken Hahnemann the whole of his "Organon" to expound it, and thus to construct a system for it. What is a

system? It is, as Krauth-Fleming says, "an organized body of truth, or truths arranged under one and the same idea, which idea is as the life or the soul which assimilates all these truths;" or, as Ueberweg says, it is "the orderly combination of mutually related knowledge into one relatively complete whole." Dictionaries properly tell us that a system is "any combination or assemblage of things adjusted as a regular or connected whole; or things connected according to a scheme." Hence, as Bishop Butler has truly observed, "every work, both of Nature and art, is a system." Why then should we shrink from looking upon Homœopathy as a system? And if it is taught, as Hahnemann did, and all his followers must do, for the acceptance of others it becomes a doctrine. We are inclined to think that this horror of system and doctrine has arisen from the fact of the existence of the false systems and doctrines of medical treatment before the true were discovered. The false systems were not based upon facts, but were constructed, as Hahnemann says, "by interweaving empty speculations and hypotheses concerning the internal essential nature of the vital processes and the mode in which diseases originate in the invisible interior of the organism (whereon so many physicians have hitherto ambitiously wasted their talents and their time.)"

Dr. Hughes, in asserting that homœopathy "belongs to the art of medicine rather than to its science," evidently has laid more stress upon the rule or method than on the law on which it is based, and in this matter has placed himself in opposition to Hahnemann, though in agreement with him, as regards the actual Latin phrase expressive of the rule. We are sorry that there should have been so much quarrel and disputation in our school about the phrases, *similia similibus curentur* and *similia similibus curantur*. It is true Hahnemann used the former phrase, and that the latter was an innovation made during his life-time, no one knows, by whom. It is said that Hahnemann was indignant at the innovation, though we have no public declaration of his to that effect. On the contrary having spoken of his own phrase, *similia similibus curentur*, as expressive of "the only therapeutic law conformable to nature," or "of a principle of eternal nature"; and having worn a medal on his body presented to him by the French Homœopathic Society

bearing the formula in its later form, he certainly not only "condoned it," as Dr. Hughes says, but "was inclined to adopt the idea conveyed in the innovation," as Dr. Dudgeon very correctly surmises. Would he have done so if the Latinity of the innovation had been atrociously bad or at least dubious? We have the authorities of Cicero, Seneca, and others which Dr. Smith has cited in his *Latin-English Dictionary* to show that the verb "curare" has the secondary meaning of "to cure, to heal." We hope that this controversy about these phrases would cease, and that we may adopt both the formulæ as correct, Hahnemann's as expressive of the *rule* of practice, and the innovated one as signifying the *law* of nature on which the rule is based.

As regards the origin of Homœopathy Dr. Hughes shows clearly that Hahnemann was its inventor, having discovered in what consisted the true similarities between drugs and diseases. "That the idea of fitting likes to likes in the treatment of disease," says he, "had occurred to men's mind prior to Hahnemann may be freely acknowledged. It may be found here and there in medical literature from Hippocrates downwards. But when examination is made into the nature of these similarities, they will be found in most instances something very different from those which homœopathy uses as its fulcra. That vomiting should be checked by an emetic, in an emetic dose (*vomitum vomitu*), was treatment by similars in the eyes of the father of Medicine: and his successors wandered still further from the mark. ... Signatures—the resemblance in form or color of parts of plants to parts of the body; analogies yet more imaginary between the constituents of the macrocosm of the world and the microcosm of the organism; the use of preparations of the organs of animals for disorders of the same organs in man—a practice at present undergoing a curious revival; the application of certain theoretical qualities of bodies—dryness, coldness and so forth—to corresponding rather than opposite characters of disease,—these were the similars of mediæval physicians. A few later writers—Stahl the Dane, Stoerck, de Haen—noticed the occasional or possible curative operation of measures which caused disorder similar to that of the patient; but there they left the matter. Hahnemann's distinction is that he grasped this

similarity as the only real and fruitful one, and, seeing reason for suspecting it to be a general and not an exceptional basis of cure, tested and worked out his thought until he formulated it as a standing rule for the best medical practice."

We would earnestly commend to the careful attention of every practitioner of homœopathy what Dr. Hughes has so justly and philosophically said under the heading of homœopathic practice. "Do you, in acknowledging the truth of homœopathy, bind yourselves to its exclusive practice?" he asks, and emphatically answers—"No; by no means." "It is the supreme duty of us all to do what we judge best for our patients, irrespective of any creed or system. We have protested against the tyranny which has ostracised us because we believe this 'best' ordinarily to be homœopathy; and it is not for us to be entangled again with any other yoke of bondage. We must let no one impugn our right of unfettered therapeutic choice... Claim to be priests of the one Catholic Church of Medicine, however much the prevailing majority deny your orders and invalidate your sacraments. They force you into a sectarian position; but let them not inspire you with a sectarian spirit. Assert your inheritance in all the past of medicine, and your share in all its present: maintain your liberty to avail yourselves of every resource which the wit of man has devised or shall devise for the averting of death and the relief of suffering."

This has exactly been our attitude to homœopathy ever since our conversion to it. While recognizing it as the most advanced point yet reached in the domain of therapeutics, we have not shut our eyes against its imperfections and limitations, and we have not been blind to the use and importance of other laws than that of the *Similia Similibus Curantur*, which, in their own sphere do bring about genuine cures. The machinery of life is so intricate and complicated, is so much under the influence of so many forces, that it is impossible to expect that *all* its disorders should be capable of being brought under the remedial influence of one law or method alone. Homœopathy as a method has been found to take cognizance of most of these disorders, and with its increasing perfection the number of disorders not amenable to its curative influence will diminish more and more, but still there will be a residuum large enough to tax the utmost skill of the physician to bring into play other methods and measures for their removal or alleviation. Dr. Hughes has arranged these in the light of present knowledge under the following heads:—

- (a). The use of cold baths in typhoid fever seem to give somewhat better statistics as regards recoveries than even our own treatment can boast.
- (b). The recurrence in relapsing fever cannot be prevented by homœopathic remedies; but can be by antiseptics like the hyposulphite of soda.
- (c). We have nothing to take the place of full doses of iodide of potassium in tertiary syphilis.

(d). In peritonitis from perforation we must give full doses of opium, as in ordinary practice if we are to have a chance of saving our patients.

(e). In cardiac dropsy we can rarely get the good effects of digitalis and its congeners without the induction of their primary physiological effect, so raising the arterial tension.

(f). Nitrite of amyl is a better palliative in paroxysms of 'angina pectoris' than any homœopathically acting remedy.

(g). The use of iodide of potassium in aneurism seems outside the range of our method, and is yet a valuable piece of practice on which we can hardly improve.

(h). In uræmic coma, measures for relieving the brain of the 'perilous stuff' which is oppressing it—if needful, venesection itself—are of more avail than the best drug treatment.

After enumerating these eight as the only instances in which at present homœopathic treatment is so excelled as to be displaced by measures of another kind, Dr. Hughes justly remarks, "you will see at once how few they are in proportion to the mass of ills where the balance is just the other way. You will thus be encouraged to commit yourselves freely, with such reservations, to the guidance of the homœopathic law. Let none impugn your liberty, but let all respect your loyalty."

We will close this notice with Dr. Hughes's recommendation of the dilutions to be used. For the acute, typical disorders, such as the fevers, inflammations, catarrhs, neuralgias, spasms, which constitute the bulk of daily practice he says: "If you carry in your pocket case the first decimal of aconite, baptisia, belladonna, bryonia, gelsemium, ipecacuan, iris, nux vomica, and spongia; the first centesimal of apis and tartar emetic; the third of mercurius corrosivus, phosphorus, and veratrum album; the sixth of arsenicum; if you reinforce with a few medicines of full strength to meet special contingencies—as hamamelis for hæmorrhage, and camphor for shock and collapse,—you will have a quiverful of shafts which will rarely need augmenting. By further dilution, if need be, at your patient's house you can exactly proportion the dose to age, sex, and susceptibility; and you will rarely do anything but pure good."

For chronic diseases the range of medicines as of their doses must be greater. "Sulphur 30 is a definite remedy to me, dose and all. I know what I can do with it as I know the powers of aconite 1x. So I can say of lycopodium 12 and silicea 6, and of many others. I do not know that you need go higher than Hahnemann's 30ths; but, as you have thus already gone beyond the estimated divisibility of matter, you will hardly be taking a fresh step if you dip occasionally into Dunham's 200ths."

We cannot take leave of this the last work of the late distinguished author without recommending it to all who wish to practice homœopathy on the soundest principles and with the latest knowledge that has been brought to bear on the treatment of disease. The work is calculated to be useful not only to homœopathic practitioners but to members of the old school as well.

EDITOR'S NOTES.

Bromide Treatment of Epilepsy in Children.

We take the following from the *Homœopathic Journal of Pediatrics* for July, and invite comments of our Indian colleagues on the same. The treatment recommended seems to us to savour too much of the recklessness and audacity of the old school, and nothing but reports of actual cases so treated can incline us to adopt it :

Medicinal treatment in cases of long standing is unsatisfactory. In the early reflex convulsions much can be done by homœopathic remedies. Patients suffering from true epilepsy do much better under the bromides. Bromide of Potassium has been found to be the most efficient remedy. Good results follow the alternate prescribed of all the bromides. In giving any of the bromides it is well to begin with small doses, gradually increasing each day, until the physiological action of the drug is obtained. If this treatment is carried on with weekly intervals much benefit will be derived ; the periods between the convulsive seizures will be very much lengthened. In giving any of the bromides it is well to dilute with a large quantity of water.

In giving Bromide of Potassium there need be no fear of large doses. Many physicians condemn this remedy in the treatment of epilepsy, and this has come about from ignorance in prescribing. You cannot expect good results to follow from 10 to 20 grains daily ; this may seem a large dose to give a child, but in your severe cases try from 20 to 40 grains daily and even larger doses, then notice the improvement that will follow. Certainly the dose must be regulated according to the strength and age of the patient. By beginning with small doses and gradually increasing each day, you can soon have even a weak child taking a large dose without any fear of bromism.

The Passing of the Beard.

Dr. Alexander Dowie in his new Zion, from which he has banished all regular professors of the healing art, has lately issued an ordinance making the wearing of beards compulsory on all men. Elsewhere, however, there are signs that the doom of the beard is written in the book of fate. Fashion and hygiene are for once combined in one object, and that is the elimination of the beard. A few years ago our gilded youth were bearded like the pard, or as nearly so as Nature permitted ; now what Parolles calls "valour's excrement" is practically a forbidden thing to "smart" young men, even as a decent

covering for a feeble chin. Hygiene is equally ruthless. A German surgeon some time ago vehemently denounced the beard as a fertile source of infection during operations. Quite recently it has been stated, with what authority we are unable to say, that the German Emperor has decreed that those among his lieges who practise medicine or surgery shall cut off their beards. So sweeping an order sounds rather improbable even as coming from a potentate whose motto is *Summa lex regis voluntas*. But the German Emperor, like the prophet Habakkuk, is capable of anything when he is bitten by an idea. And such an order would be in accord with the teachings of hygienic science, for your Teutonic professor is often like Bottom in his "translated" condition—marvellously hairy about the face. In another hemisphere it is announced that the Milk Commission of New York has ordered that hereafter smoothfaced men only shall be employed for milking cows and delivering milk to the various depots throughout the State. The reason given is that the dust from the stable is liable to infect the beard, which will collect and hold microbes that may readily impregnate the milk. Unless the beard can retrieve its sanitary character we fear it is destined to become as rare as an appendix already is within the sphere of influence of certain Transatlantic surgeons.—*Brit. Med. Journ.*, July 26, 1902.

A Series of Cases of Jaundice in the Fœtus.

By G. Francis Smith, M.R.C.S. Eng., L.R.C.P. Lond.

It is no uncommon thing to meet with a mild attack of jaundice in the newly-born infant, but I believe that the same condition in the fœtus is rare, and still more so when the resulting poisoning causes death, as described in the following cases, all children of the same mother.

Four years ago a patient under my care, then aged 29 years, was delivered of a male child who was free from jaundice and who is now living. At the age of two years he had a very severe attack which at the time I attributed to obstructive catarrh of the bile-ducts. Three years ago the same woman had another boy born. The child was full-time but stillborn. He was intensely yellow, as were the liquor amnii, the membranes, and the placenta, all of them being deeply stained with bile. Death had presumably occurred one week before birth. Two years ago another boy was born and the same condition of the liquor amnii and membranes obtained. The child, who lived three days, was green at birth and became more so afterwards. Symptoms of bile-poisoning supervened, terminating in coma.

One year ago a girl was born. Here again the same condition prevailed, only that the child lived five days. On June 26th, 1902, another boy was born. The liquor amnii was less dark and the child was less stained than on the previous occasions ; but here, again, life seemed to flicker a few hours after birth. The child would not take the breast, cried pitifully and moaned, gradually became comatose, and died on the third day.

In none of these cases was there obstruction to the flow of bile into the intestines, for the first and subsequent motions were deeply bile stained. The mother had one attack of jaundice some three and a half years ago whilst pregnant with the child that was stillborn. She is otherwise healthy though fragile-looking. The father is the picture of health and strength and the family history is good on both sides. I am utterly at a loss to account for these strange cases and I cannot even suggest a probable cause of the jaundice, or rather the excessive secretion of bile, which in each case was present before birth and was the direct cause of death.—*Lancet*, July 19, 1902.

A Pious Founder of the Best Type and a Remarkable Death.

By the death of Dr. Levi Cooper Lane, Professor of Surgery in the Cooper Medical College, San Francisco, the medical profession of the the United States lost one of its remarkable members. The Editor of this journal, who had the honour of delivering the Lane Lectures last year was much impressed by Professor Lane's personality. The "Exercises" in memory of him, held after his death in the college which he founded, have been published, and we have been favoured with a copy. Although never from childhood entirely well, he was all his life a tremendous worker. There was scarcely a field of learning which he had not to some extent explored, and his knowledge was accurate and full. He had an exact knowledge of many tongues, and was a good classical scholar. It is on record that when he presented himself as a candidate for the medical service of the United States Navy, "his impromptu thesis . . . was, to the surprise and consternation of his examiners, written in Latin." Of few men could it be said with greater truth than of Dr. Lane that he built himself a monument more enduring than brass. He made important contributions to surgical literature, but the splendid college and hospital which he founded and lavishly endowed are his best works, because they are inspired, not by his brain alone, but also by his heart.

Dr. Lane's death was as remarkable as his life. *A San Francisco correspondent wrote to the Editor as follows :—

Of the illness and death of Dr. Lane you were informed by cable. You know better than I can tell you how great a loss this has been to Cooper College and to us young men personally. He fortunately suffered no pain, but had all the discomfort of gradually increasing weakness which finally made him helpless, and yet he uttered no word of complaint or impatience, but would smile when we asked him how he felt, smiled so as almost to break one's heart. He was conscious to the very instant of death—in fact, he recognised death in the moment of passing, for he said, "Oh! it is death, death," and was gone.

A death of perfect peace, fit end to a strenuous life.—*Practitioner*, July 1902.

Use and Abuse of Alcohol.

Alcohol in any form is seldom of service in that class of affections vaguely denominated hysterical. The very general practice of resorting to gin and similar spirituous compounds for relief from dysmenorrhœa and the multi-form troubles arising from ovario-uterine irritation, is always to be deprecated, as aiding in the production of the most serious and intractable chronic maladies.

Still more injurious and unnecessary is the indiscriminate use of alcohol for the relief of pain in general, for averting the consequences of every shock to which the organism is liable, and for dispelling attacks of faintness under any and all circumstances. The best rule in such emergencies is that which bids us follow the indications afforded by the pulse, which will always inform us whether an alcoholic stimulant is called for, or whether the patient would be better off without it.

In a case of apoplectic seizure, for example, no more noxious agent than such a stimulant could possibly be selected, for, instead of lessening the pressure upon the walls of the already distended blood vessels, it increases the impulse of the heart, and hence is liable to convert a slight attack into one of serious import, or to hasten a fatal termination when recovery is hopeless. It will be found of service, however, in the second stage of this lesion when indicated by the pulse.

The form in which alcohol should be administered must depend in any given case upon whether we desire to avail ourselves of its chemical, its caustic or astringent, or its physical properties. It may be given either by the mouth or hypodermically. If we wish to obtain its chemical effects, as in the case of poisoning by venomous reptiles,

by the infection of diphtheritic micrococci, or by any other morbid agent to which it is inimical, then its administration in comparatively large quantities will be unattended with danger, and may even be carried to the very verge of toleration. On the other hand, if that long-lasting constitutional reinforcement be aimed at which is desirable in most affections, our doses of alcohol must be exceedingly minute—much more so than those in which it is usually employed. In such cases, as in all others calling for *specific* medication, we must be most careful to avoid any considerable aggravation from our use of the remedy.—*Medical Times* (New York), July 1902.

The Cerebro-Spinal Fluid.

The nature of the cerebro-spinal fluid has recently been the subject of investigation by Professor E. Cavazzani of the University of Ferrara, who gives his results in the first fasciculus for 1902 of the "Archives Italiennes de Biologie." First, in regard to its alkalinity which he determined by "lacomoid," he finds that in the dog the mean is 0.093 per cent. of NaOH and in the ox 0.104 per cent., the fluid being obtained from animals killed by bleeding. In other cases the fluid was obtained during life by aspiration through the atlanto-occipital ligament. In dogs that were curarised the mean was 0.089 NaOH per cent. and in two normal rabbits it was 0.099 and 0.085 per cent. The importance of these numbers consists in the evidence which they afford that the cerebro-spinal fluid is not a mere filtration of the plasma of the blood, since it presents less than half the alkalinity of the blood. In the next place, the effects of various reactions such as tincture of guaiacum, hydrochinone, gallic and pyrogallie acids, peroxide of hydrogen, and orthotoluidine, have led him to the conclusion that the cerebrospinal fluid contains a ferment to which he has given the name of cerebro-spinase. This ferment possesses the power of destroying the reducing agent which is normally present in the cerebro-spinal fluid and is capable of oxidising glycose. Professor Cavazzani adduces reasons for supporting the views of Knoll attributing variations of pressure in the cerebro-spinal fluid to venous influence. At the beginning of asphyxia there is a diminution but subsequently an increase of pressure in the fluid and if the central stump of the vago-sympathetic nerve is stimulated in the dog the fluid ceases to flow through a fistula. The results of his experiments have convinced Professor Cavazzani that the cerebro-spinal fluid is a true secretion and is not lymph in the ordinary sense of the word. As additional evidence in favour of this view Professor Cavazzani has

studied the action of the substances termed "lymphagogues" by Heidenhain—namely, peptone and the extract of the heads of leeches, glycose, and chloride and iodide of sodium. In no instance was there any acceleration in the flow of the cerebro-spinal fluid from fistulous openings.—*Lancet*, July 19, 1902.

Disabilities of the Poetic Temperament.

It has been said that "every good physician is a poet," and, like most aphorisms, the saying combines a modicum of truth with a large leavening of mistaken notion. The idea that the author of this remark wished to convey was the perfectly correct one that something of the ready sympathy and something of the emotional susceptibility which belongs to the poet must be present in the character of any man who is to be highly successful in medically understanding and treating his fellow-creatures. The practice of medicine, an art which deals with the minds and bodies of human beings, let it be founded to however great an extent upon exact science, cannot be, and never will be, successfully pursued by the kind of man who is called "hard." A hard, rugged exterior is the familiar apparel of the medical practitioner of a certain class of novel. The writers of such books are careful, though, to let it be seen that this forbidding appearance and this harsh manner conceal an unusual softness of heart, and in doing so they are not merely being just to the medical profession but they are acting in accordance with a recognised and correct opinion—to wit that a "doctor" must be kind. So far, then, our claimant for poetic attributes in the physician is justified. There is, however, a great deal on the other side of the question that he overlooks. That very sympathy which is the essence of the poetic temperament is a dangerous asset to the practitioner of medicine. At least, if it is essential to the perfection of the character as a physician it must be kept sternly under control in a manner that would ruin its favourable influence upon a poetic output. With the poet everything that appeals to his sympathy, everything that touches the strings of his heart, should move them to a musical note. When the poet feels he expresses his feeling and the expression is poetry. He has been described as a man who expresses what other people only feel. With the physician, on the other hand, a prime duty is often not only not to express but even carefully to hide his real feeling. When he realises the gravity or the hopelessness of a case is he to weep at the bedside? That would be the poetic attribute to the situation, it is scarcely that of the true medical man. In another way, too, the poetic temperament has dis-

abilities tending to encumber the physician. The poet's qualities are in constant strife with reticence. The physician, it has been well said, must have not only sense but reticence. Confidence in the inviolability of confidences is an essential element of a patient's trust in his medical man. Stern must be the control which the poetic physician exercises over his natural tendencies, for reticence and the poetic temperament are natural foes. The matter-of-fact man may lay this balm to his soul, that if he cannot be a great physician at least he is much more easily a harmless one than his fellow with the great possibilities—and great disabilities—that accompany the poetic temperament.—*Lancet*, July 5, 1902.

The Etiology and Pathology of Graves's Disease.

Professor Charles Dana of New York contributes an interesting article to the *New York Medical Journal* of Jan. 14th last which throws some light on the vexed question as to whether exophthalmic goitre, or Graves's disease, is a neurosis or a glandular disorder associated with hypersecretion of the thyroid gland. Professor Dana concludes that the primary seat of the disease is in the nervous centres concerned with the innervation of the thyroid gland. An etiological factor the importance of which has been recognised only recently—viz., infection—also plays, says Professor Dana, a part in the production of the disease. Thus a study of reported cases will show striking instances of Graves's disease following upon fevers, sepsis, operative procedures, and pregnancies. In his own experience Professor Dana has seen three cases of exophthalmic goitre which developed after typhoid fever. One of the curious and instructive facts connected with the pathology of this disease is, according to Professor Dana, that in its acute fatal forms the nervous centres in the medulla oblongata or bulb seem to be exhausted and even paralysed. Of interest, too, are the changes found in the bulbar nuclei in old cases of the disease. Both these facts are shown in the following two cases, the second of which also illustrates the very rare incident of embolism in Graves's disease. In the first case the patient was a woman, aged 23 years, who was admitted to the Bellevue Hospital with severe headache and nausea. Inquiry showed nothing of importance in the family history. She was of nervous temperament but had been well generally with the exception that for the six years preceding her admission to hospital she suffered from occasional "fainting spells" but no convulsions. The symptoms of headache and nausea were attended with attacks of vomiting. She was

found on examination to be quite anæmic and there were distinct exophthalmos and enlargement of the thyroid gland, especially of its right lobe. The carotids were unduly pulsatile and a thrill could be felt over the gland. The pulse was rapid and varied from 90 to 108 (tachycardia) and the respirations were 26 per minute. The temperature was 99.5° F. The left ventricle of the heart was somewhat enlarged and there was an intense anæmic murmur at the apex. The liver, the kidneys, and the urine were normal. Her nervousness now increased, tremors, at first slight, now became frequent and distressing and the tachycardia became more pronounced. On the seventeenth day after admission she passed into a stuporous condition and was unable to swallow food or to talk distinctly. There were also a slight ptosis of the left eyelid and other symptoms which led to the belief that there was some lesion of the pons. The pulse-beats increased in frequency and the temperature rose to 107°, death occurring on the nineteenth day. The post-mortem examination disclosed a normal condition of the heart, the lungs, the kidneys, and of the other organs with the exception of the brain and the thyroid. The left crus cerebri was the seat of softening, but there was no hæmorrhage, and the sections showed that the lesion must have been due to thrombosis or embolism. The blood vessels showed no evidence of atheroma or of syphilis. The second case was that of a woman, aged 45 years, with typical symptoms of Graves's disease, terminating fatally four months and one week after admission to hospital. The necropsy disclosed in this case striking degenerative changes in the bulbar nuclei of the hypoglossal, pneumogastric, and other nerves in the form of pigmentation and vacuolation of the cell bodies and a moderate degree of chromatolysis or loss of the Nissl granules of the nerve-cells. The foregoing histories show, adds Professor Dana, that Graves's disease at times runs an acute course, and that in cases of some duration decided changes are found in the nerve-cells of the pneumogastric, the hypoglossal, and other nerves within the bulb.—*Lancet*, July 26, 1902.

CLINICAL RECORD.

Indian.

A CASE OF PSORIASIS IN A PARROT WITH DISCOLORATION AND DROPPING OFF OF FEATHERS. CURED BY *ARSENIC*.

BY DR. MAHENDRA LAL SIRCAR.

A beautiful parrot of the Channana variety was caught about a year ago. It was apparently in full health. Its feathers were bright green with red streaks on the middle of the upper surface of the wings. It was put in a cage. After about a couple of months' confinement, it was noticed that feathers were dropping off, first from the breast, then from the wings and from the tail. Most of the downy feathers of the breast became white before dropping off. In the course of three or four months, the bird had lost so much of the feathers of the wings and of the tail that it was unable to fly; so during the day it was let out of the cage and allowed to walk about, and after nightfall was put in its cage again. Notwithstanding this freedom given to it, the disease did not show any sign of improvement. The ladies from time to time gave the bird baths of turmeric water which according to them is a powerful insecticide. But these baths were of no use. In the course of ten months from the commencement, the bird lost nearly three-fourths of its feathery covering. Singularly enough it did not lose appetite. It could eat well, and in fact it was rather greedy.

In the beginning of May last I thought of trying some medicine. and Arsenic was the first medicine that came to my mind. I could not, however, make the poor thing take the drug. I put some globules of the 30th in its milk, but seeing that I had put something in the milk it would not take it. I tried to put the globules in the milk without allowing it to see what I was doing. But somehow or other it became suspicious about its milk and refused to take it from the day I had mixed medicine with it. At last about the middle of May I thought of mixing with the gram soaked in water with which we used to feed it, a little sugar of milk with about half a drop of Arsenic 30. He ate the gram. The dropping of feathers ceased in about four or five days. In about a week the downy feathers of the breast which had become white began to turn green. In a fortnight feathers appeared in the wings and the tail and began to enlarge to their natural dimensions. In the course

of a month the bird had nearly regained its full and beautiful plumage. It became quite a pet with me and I had expected that it would for some years to come remain a monument of the great genius which had discovered the true science of healing which was to be a blessing not only for mankind but for the animal world as well. But alas! on the 18th June, a feast day in my house, the ladies forgot to put the bird in its cage, and at midnight it was caught by a cat and made a meal of, to the grief of the whole family and specially of myself.

Remarks.

This was truly a remarkable case. It not only demonstrated that homœopathy was applicable to the lower animals, thus pointing to the similarity of structure and function throughout the animal world, but it showed also how sometimes high dilutions act beneficially, and even one dose sufficing to effect the cure of a long existing disease. When I administered the 30th Arsenic, I did not expect any improvement, at least in so short time, and I would have repeated the medicine if no improvement had followed in the course of a week. But improvement being perceptible in the course of four days I waited to see if the improvement that had begun would continue. It not only continued, but became more and more and so much so that I gave up all thought of repeating the medicine. Would repetition have been useless or even injurious? It certainly could not have accelerated the cure which was so rapid without it. This case teaches the value of patience on the part of the physician.

We have experience of the efficacy of our dilutions, and of the Hahnemannian 30ths, in the horse, the dog, the sheep, the cow, &c. We do not think they have been tried on the elephant, the rhinoceros, the camel, the cameleopard, &c. It would be interesting to see if the high dilutions would act in these animals. Trials alone can decide, and these will come in time.

HOMŒOPATHY IN A SURGICAL CASE.

By DR. W. YOUNAN, M.B., C.M. (Edin.)

To-day is the first anniversary of my first professional visit to a well-known native gentleman, a prominent member of the legal profession of this city. He was thrown from his horse on the morning of the 21st July last and sustained a concussion of the brain with an extensive laceration of the scalp. As the accident happened near his house, the patient, who was unconscious, was taken quickly home and surgical aid summoned. The wound was dressed *secondum artem*

and in a few hours consciousness was regained. All went well with the patient for some days, but on the fifth or sixth day the surgeons began to notice some dulling of the brain, which, instead of diminishing, went on increasing, till, on the tenth day, unconsciousness was practically complete and the patient was in a state of traumatic coma. A consultation of physicians and surgeons was held in the evening of that day and it was finally decided that the only chance the patient had of recovery was to be trephined. The family of the injured man received this news with much alarm, and the elder brother asked for two hours to consider this grave matter. At the end of that time the surgeons were informed that the operation was refused, and messengers were sent to a number of homœopathic physicians to request their immediate attendance. I was one of the number summoned and saw the patient about 9 p.m. It took me an hour to remove the surgical dressings and to cleanse the wound of all the Iodoform it contained. Plain lint and Olive oil dressing was now applied, and, with a colleague who had just then arrived, I proceeded to hold a consultation as to the mode of treatment to be adopted. We discussed the virtues of two of our best vulneraries, Arnica and Hypericum—and decided in favour of the latter as being more suitable to the traumatism of nervous tissue. We further decided to depend entirely upon internal treatment and to avoid local medication of the wound. Every precaution was taken, however, to keep the injured parts clean, and free syringing with tepid water and anointing with olive oil was adopted morning and evening. As decided we gave the patient a single dose of four globules of Hypericum 200 and left for the night.

The following morning we were pleased to see some change for the better, the unconsciousness being not so marked and we were informed that there was less restlessness through the night. This little improvement continuing up to the time of our evening visit, the Hypericum was not repeated, but a dose was left to be given if necessary through the night. This dose was administered but no further improvement occurred, and in the morning we prescribed Belladonna 200 in a single dose. A senior colleague's consultation was now asked and we met in the evening. He suggested Zincum metallicum 12, two or three doses of which were administered till the following morning. Finding some change for the better we agreed to wait, but by the afternoon the improvement had passed away and a fresh prescription seemed necessary. Reviewing the case anew it seemed clear that we had to do here with cerebral meningitis with effusion of traumatic origin. That classical remedy in this

pathological condition, viz., mercury, suggested itself to our minds and without delay a dose of four globules of *mercurius corrosivus* 200 was administered. This was between 4 and 5 p.m. and we saw the patient again about 9 a.m. the following day. Imagine our surprise and joy on being told by the members of the family that the sick man had recovered consciousness sometime during the night, that in the early morning he had sent for his wife, his favourite daughter and his elder brother, and, putting his arms round the neck of the last, he wept like a child, telling him how sorry he was to have put them all to so much trouble. We judged for ourselves that consciousness had quite returned though the brain showed symptoms of instability in more than one direction. From this day the patient continued to steadily improve, but sleep was very disturbed and restless and we had to administer a dose of *stramonium* 200th, as some delirium and even violence at night rendered it necessary. At this stage, when the patient could engage in long conversations with his doctors, he informed us that for nine long years he was in the habit of taking Lator's Phosphodyne for brain and body fatigue, the result of hard work and anxiety. He was also subject to fits of vertigo and it was hinted to us that he fell off his horse in one of these fits. We could now understand the condition of the patient's brain and prescribe better for its instability. To prescribe "a hair of the dog that bit him" suggested itself to our minds and we administered a single dose of two globules of *Phosphorus* 200 with the happiest result. As the great Hering taught, medicines in high potencies are able to antidote the effects of their crude doses. Under this dose of *Phosphorus* the brain began to lose its excitability, sleep came more naturally and the patient slowly returned to his original mental frame. The scalp wound did not heal so very readily as was expected. One little portion of it showed a tendency to exuberant granulations, but as the general health improved the trouble passed away.

Thus passed out of our hands cured a difficult surgical case treated on strict homœopathic principles, the local medicinal treatment of the wound was deliberately avoided to give the internal homœopathic remedies, in single doses, the best chance of action. The end justified the means and was one more illustration of the success of Hahnemannian Homœopathy. The fame of this cure spread far and wide, and we had the immense satisfaction of knowing that a good many people were considerably strengthened in their belief in Homœopathy. Our brethren of the old school may have their doubts regarding the *homœopathic* healing of this case—but seeing is believing.

Foreign.**CASES FROM PRACTICE.**

By C. F. BARKER, M.D., Chicago.

Case 1. PARESTHESIA. Miss M., age twenty-six, had an attack of diphtheria followed by considerable paralysis of the throat muscles, tendency to cough on swallowing and of fluids to enter the posterior nares, etc. Zinc 6x was prescribed for this affection and later on she was given causticum 3x, and in about six weeks the throat was well. She now began to experience numb feelings and prickling in the hands and feet. These morbid sensations increased in spite of internal medication symptomatically prescribed. Two months elapsed and the trouble had gradually extended from the toes to the knees and from the finger tips to the elbows. Tactile sensibility was considerably disturbed and the patient was beginning to be alarmed. Local and general faradism were now used, and after only six treatments, two days apart, she was completely relieved. The treatments were mild and of about ten minutes' duration.

We are, of course, aware that paresthetic neuroses may be self-limited, though they not infrequently annoy patients for months and years. In this case it can hardly be doubted that the rapid relief obtained was due to the use of the faradic current.

Case 2. SCIATICA. Mr. K., age sixty. This patient was suffering with severe sciatica neuralgia, which began a week previously. The right limb was the seat of the pain and there were several sensitive spots along the course of the nerve. The pains were sharp and lightning like, shooting from hip along the nerve and into the foot, and each pain was attended with slight muscular contraction in the limb.

Colocynth 3x was administered internally, and phytolacca was applied topically, the tincture being used. These appeared to afford some relief for a day or two, but after that time the pains began to be severe again, so we determined to try the effect of local faradization. The first treatment (fifteen minutes) afforded great and lasting relief. After the third sitting (the treatments were on alternate days), the pain and soreness disappeared and the patient was discharged. Two months later he returned with the same trouble in the other limb, had been unable to get much sleep for two nights. The pains were of the same character as when the right limb was affected. The treatment was the same and the relief more rapid than before.

Sciatica is so distressing and obstinate an affection, that speedy relief that is permanent, is rather unusual. We recall two other instances, however, in which the treatment instituted was followed by immediate and lasting cessation of the malady.

One of the cases was a lady who had taken a long drive on a cold day in winter. That night she was seized with pain along the sciatic nerve of one limb, and thenceforth had little comfort until after we saw her the next evening. Aconite tinct. was painted along the course of the nerve, and aconite 3x was administered at frequent intervals internally. In a few hours she was entirely free from the pain and it did not return.

The other case (also a lady) was the patient of a fellow practitioner and for two weeks she had given him no end of trouble, day and night. Indeed, evidence were not lacking to convince one that both patient and physician were nearing a state bordering on dementia. Her physician was summoned away from the city for a day, and we were asked to see the patient that night. We found her in a specially severe paroxysm, and as morphia had already been used, began by administering a hypodermic injection of one-fourth grain into the upper part of the thigh, just over the course of the main nerve trunk, intending, if possible, to puncture the sheath. This injection not only quieted the pain, but strange to all concerned, completely and permanently dispelled it. That we succeeded in puncturing the nerve sheath seems probable, for the patient's physician had repeatedly injected the same agent into other portions of the body with only temporary effects.

Case 3. ROSACEA. Mr. C. age forty-eight, is rather stout and a hearty eater, but has never been addicted to the use of malt or spirituous liquors. His general health is good, but some months ago he began to notice an unnatural redness of the nose. This gradually increased, being accompanied by a scattered eruption of pimples on the affected surface. Of late the trouble has become so much worse that he fears that it has come to stay.

Belladonna appearing to be the indicated remedy, was prescribed, together with a restricted diet and directions to take frequent general baths. After some weeks, no great improvement being noticed, the treatment was supplemented with the use of the galvanic current. Two small sponge electrodes were employed, with a current equivalent to about eight cells, and the application repeated every other day. The negative electrode, well moistened with an alkaline solution, was gently and firmly brushed over the surface of the nose, while the other moist electrode was moved from place to place on either cheek. After a dozen treatments the redness was no longer present, the skin appearing normal. Three months have now elapsed and there has been but slight indications of a return. The case was only in its incipency, of course, and we do not know whether the

result will be permanent or not. But in the first and second stages of "red nose" galvanism is accredited with making many cures. It is certainly a powerful adjunct to hygiene, dietetics and well selected remedies.

Case 4. NAUSEA WITH ENLARGED THYROID. Mr. L., age forty, about two years ago began to have sudden and frequent attacks of nausea—often with vomiting. These appeared at the most unexpected and inopportune moments, causing the patient great annoyance and embarrassment. No definite cause could be discovered, either in occupation, physical condition or habits of living. He was a somewhat inveterate smoker, a hearty eater, and had a large bronchocele of many years' standing. Aside from these items, examination and analysis of his case failed to reveal anything especially inconsistent with health. His occupation was sedentary and of an intellectual character—though in summer he indulged freely in golf and other outdoor sports. He was advised to carefully restrict his diet and to cut off tobacco, and to take the remedies which we symptomatically prescribed. Cocculus, ipecac, pulsatilla, nux vomica, phosphorus and iodine, each failed to give any permanent relief. The beginning of the enlargement of thyroid gland dated back twenty years, and the patient's experience had not encouraged him to persist in taking treatment for that affection. During the preceding five years, the growth had greatly increased, all parts of the gland being effected—both lobes and the isthmus—though the left lobe was especially prominent. Thinking that possibly the attacks of nausea might come from some interference with the vagi, due to mechanical pressure, we advised increasing the size of the collars and neck bands of shirts. This apparently gave some relief, since the nausea and vomiting were less frequent and severe for a while. Improvement was only temporary, however, and the thought then came to us that perhaps the degenerative changes in the gland were interfering with normal metabolism. This naturally suggested the idea of thyroid feeding. We began by administering five grains of desiccated thyroid three times daily, and from that time improvement was rapid and uninterrupted. The nausea and vomiting quickly disappeared. A year has now elapsed without a return of the unpleasant symptoms, but before relief came the patient had been under observation and treatment the better part of a year, and the attacks had often been only a few days apart.—*Clinique*, June 15, 1902.

A CASE OF AORTIC ANEURYSM SUCCESSFULLY
TREATED BY THREE HYPODERMIC INJECTIONS OF GELATINISED SERUM.

In the *Archives de Médecine et de Pharmacie Militaires* for June Surgeon-Major Dusolier reports a case of aneurysm of the abdominal aorta which was successfully treated by the subcutaneous injection of gelatinised serum according to the method recommended by Dr. Lancereaux. On the morning of Sept. 7th 150 grammes of artificial serum containing 1.5 grammes of gelatin were injected into the left flank. There was no local reaction but in the afternoon the patient's temperature rose to 38° C. and his pulse increased from 85 to 95. There was also slight retention of urine. The following morning these symptoms had gone and two days after the injection the patient, who till then had been greatly depressed, declared that he felt very much better. The severe pain was considerably diminished and he could now remain in a sitting posture as long as he liked without being "shaken by electrical discharges in his legs." There was, however, no improvement as regards the tumour. Its volume remained the same and the throbbing vibration and systolic murmur were unaltered. On the 14th 200 grammes of artificial serum containing three grammes of gelatin were injected into the right thigh. Towards midday the patient experienced a violent rigor; his temperature in the space of two hours rose to 39° C. and his pulse to 98. On the next morning not only was the general condition improved but there was also distinct amelioration in the local signs. Two days after the second injection the tumour had palpably shrunk, its expansive force was much less, and the space over which the murmur was audible had considerably diminished. On the 23rd 200 grammes of serum containing two grammes of gelatin were injected into the right flank. That evening the temperature reached 40° C., while the following morning it was still 38° C. The patient's pains had entirely vanished; he no longer suffered from lumbago, headache, or vertigo. The troublesome feeling of anal protrusion of which he used to complain had also disappeared as well as the sensation of pricking and tingling in his lower extremities. On Oct. 4th he was discharged practically well. In conclusion Surgeon-Major Dusolier draws attention to the febrile reaction which increased in severity after each injection. These operations were performed with strict antiseptic precautions and no local complication of any kind supervened. He regards the rising temperature as the index of the curative action of the gelatin, and is also of opinion that the aneurysm was sacciform, with a very narrow neck, thus lending itself to an exceptionally rapid cure.—*Lancet*, July 19, 1902.

Glennings from Contemporary Literature.

HOMŒOPATHIC MATERIA MEDICA AS APPLIED TO SURGERY.

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Upon a prominent page of the transactions of the New York Homœopathic State Society and also upon those of the American Institute of Homœopathy the definition of a Homœopathic physician has stood for a number of years.

Ever since I first saw that definition, I have wanted to try my hand at defining, for the reason that I believe that there is something lacking therein and that it could be bettered. This opportunity now presents itself and so in order to try how it works I wish to offer a definition of a Homœopathic surgeon and to do so, of course we must not find too much fault with the other one, lest we fail. The one I would offer is as follows :

A HOMŒOPATHIC SURGEON IS ONE WHO ADDS TO HIS KNOWLEDGE OF SURGERY A SPECIAL KNOWLEDGE OF HOMŒOPATHIC THERAPEUTICS AND PRACTICES HIS CALLING IN CONFORMANCE WITH THAT KNOWLEDGE.

That there is such a thing as Homœopathic surgery, I need not tell the gentlemen who have graduated from, or who are now in attendance at the New York Homœopathic College. However, in these days of aseptic surgery, a surgery that has been wonderfully revolutionized since the days of two and twenty years ago when I sat upon the benches of this institution, in these days when surgery does so much it would almost seem that there is very little left for the super-added knowledge, and application of Homœopathic therapeutics to do. This is, however, believed by very few if by any of the surgeons of the Homœopathic School. It is, however, a remarkable fact, and one that offers a proof of the value of this super-added knowledge, that the more serious the case, the more does the conscientious Homœopathic surgeon fly to his materia medica. Instead of the old cry that Homœopathy is good enough in mild cases, we find that those who know and have had experience, assert it is in the severe cases that Homœopathy is most successful.

Previous to the year 1855 there was no treatise in the Homœopathic School devoted exclusively to surgery. That year was made memorable by the publication of two works on the subject of Homœopathic surgery ; first, the one entitled "Surgery and its Adaptation to Homœopathic Practice," by William T. Helmuth, M.D., of Philadelphia, now the honored dean of this institution, and the same year, but two months later, appeared "The Homœopathic Practice of Surgery," by Drs. B. L. Hill and James C. Hunt, who were professors in the Western Homœopathic College of Cleveland, Ohio.

I might remark in passing, that inasmuch as Professor Helmuth, soon after the publication of this work, accepted the chair of surgery in the Homœopathic College of St. Louis, Mo., the East, then as now, looked to the West for inspiration ! (Professor Royal asked me to say this.)

These works on surgery only differed from others in the adaptation of the Homœopathic remedy to surgical practice and from that day to this the success and eminence of Homœopathic surgery over that of the Old School is due to a practice in accordance with a knowledge of Homœopathic therapeutics, for without this we would be no better than our brother surgeons of the Old School and we will never admit that for a moment.

In order to give a more practical turn, perhaps, to what I may have to say and in order to conform to the title of my subject, namely, Homœopathic *Materia Medica as Applied to Surgery*, I will, at the risk of being exceedingly tiresome—and I can be that no one knows better than myself—give some points about a few of our surgical remedies, remedies that are and should be in daily use by men who wield the scalpel—every day surgical remedies.

A distinguished Edinburgh professor, Dr. Macintosh, once said : “A pure surgeon is a man who prides himself on his knowledge of cutting and his ignorance of every thing else.” (He was not a Homœopathic surgeon who said that). The application of this saying you will have no trouble in making, for, although I do not pride myself on a great knowledge of *materia medica*, I am proud of having once had a good knowledge of surgery, for I sat for three years under the teaching of our beloved dean, but that was over twenty years ago. I will first ask your attention to the

HOMŒOPATHIC TREATMENT OF WOUNDS.

There is a remedy, I believe, oftentimes neglected in surgical practice and this remedy is *hypericum*. We are taught to regard it as the arnica of the nerves and to look for a nerve injury when it should apply. A noted surgeon of our school once remarked to me that he could not practice surgery without *hypericum*. “I give it,” said he, “in all cases of irritable wounds and I find that it acts magically in allaying irritation in wounds of the superficial structures made by the knife.” That is the keynote of its action, wounds of parts rich in nerves, hence we will find the remedy more applicable to some parts of the body than to others. Yet, no matter where the wound, if there be an intense hyperæsthesia of the same, so much so that even though the deeper structures be incised, the patient complains of the great sensitiveness of the *external* wound, give *hypericum*. In all lacerations when the intolerable pain shows that the nerves are greatly involved the remedy is well indicated. It suits the nervous depression of these painful wounds and it is a preventive of the condition known as *tetanus*. It does not matter whether this disease is caused by a germ or not, if so caused, it will remove the soil upon which these germs thrive and so act beneficially. Oftentimes there is a great nervous excitement consequent upon operations besides the painfulness of the cut, this is often marvelously subdued by *hypericum*. There is no better remedy for a

mashed finger, given internally and applied externally, than hypericum, for where are the nerves more sensitive than in the finger ends? Hypericum, seems to me, to be an every-day remedy in surgical practice.

If you will turn to your symptomatology, you will find this symptom put down against *staphisagria*: Mechanical injuries from sharp-cutting instruments. How this symptom got into the materia medica I do not recall, but I do not know that throughout *staphisagria* is found an irritability of fiber and that a colic after an operation for stone in the bladder is often speedily benefited by a few doses of the remedy. Its special field seems to be in pains following abdominal operations, laparotomies, etc. With hypericum it should always come to mind when severe pains follow these operations.

I do not intend to give all the remedies useful in wounds and so will pass over *ledum*, which is said to be good in punctured wounds, and, by the way, I recently read in an Old School journal that *ledum* was useful for mosquito bites—a variety of punctured wounds—and pass at once to our great vulnerary, *arnica*. The use of *arnica* in surgical practice is an old one. Dr. von Grauvogl, the celebrated German surgeon and oculist, recommended its use after every operation on the eye, an application that seems reasonable for the delicate structures of the eye are rich in capillaries and injuries to these form the special field of the remedy. We need not dilate upon the value of *arnica* in injuries to the soft parts, contused wounds with hot, hard, shining swelling of the affected area, as these facts are as common as household words in a Homœopathic family. But it has a wider use than all this, in fractures it comes in frequently, and Grauvogl used it before and after every bloody operation in the domain of surgery, ophthalmology and obstetrics in the third centesimal potency. Another use of *arnica*, and this brings us to what are now-a-days termed infected wounds, lies in the power it possesses in delaying and preventing suppuration. It will prevent pyemia; in fact, many good Homœopathic authorities look upon *arnica* as a pyemic prophylactic and believe that it exerts a specific action upon septic poisoning. We all know its indications in boils and in abscesses. It has also proved useful where the limbs start continually after fractures, not a cramping as in *cuprum*, but a continual jerking with great soreness and sensitiveness of the parts.

Akin to *arnica* in the field of septic poisoning stands *Rhus toxicodendron*, whose action is more pronounced. This remedy presents in its pathogenesis a perfect picture of blood poisoning, or infection. It is a far more septic remedy than *arnica*. It has a special affinity for the lymphatics and glands and it is in these structures that the sepsis is generally manifested. In purulent infiltration of cellular tissue it is first on the list and will be the most frequently indicated remedy and you are all familiar with the special indications. It corresponds well with the febrile disturbances of the pyemic state and is most useful in a fresh case. It is also a wonderful remedy for the after treatment of dislocations. Here the ligaments are involved and the affinity of the remedy for the fibrous tissues is well known.

In a case of pyemia where there is great prostration, of course arsenicum is the commonly used remedy and it is a good one. The greater the prostration and depression, the swifter the downward progress, the more urgent is the call for arsenicum. It is a wonderful remedy in carbuncle, but here do not forget *tarentula cubensis*, which presents a perfect picture of sloughing carbuncle. The intense thirst immediately following an operation where there has been much loss of blood is most satisfactorily removed by arsenicum. Do not forget the intense nightly aggravation of the remedy.

Another septic remedy is *lachesia*, and its use in poisoned wounds has been known and tested from the moment of its introduction into our materia medica. It was to this remedy and its successful use in a dissecting wound that won to Homœopathy Dr. Carroll Dunham, a former dean of this institution, and one whose memory will ever flourish in immortal green for his services to our cause. It will be indicated by the sensitiveness, the purplish color, the great burning and an unhealthy appearance about the wound. In boils, carbuncles and abscesses, where there is a tendency of the process to take on a malignant condition, it may be used with confidence. In gangrene, following wounds, it is eminently curative, traumatic gangrene is especially its field.

In almost every field of operative surgery there is not only a chance to employ the remedy, but we are neglecting the best interests of the patient if we fail to use it. In gun-shot wounds, the foregoing and other remedies may be used and may often assist nature in restoring injured tissues. I would recommend the careful perusal of a pamphlet by the late Dr. E. C. Franklin, entitled "Homœopathic Therapeutics in Gun shot wounds and the Sequelæ of Operation." It will make you wish that President McKinley could have had the benefits of the Homœopathic remedy.

Bleeding after operation is a condition that is sometimes reached by our remedies. *Phosphorus* and *china* are well tried drugs and will often correct a hemorrhagic diathesis, or a worn-out and weakened system, which predisposes to easy hemorrhage. Their administration will oftentimes be followed by a marked improvement, secondary hemorrhage prevented and new and better strength added to the patient and this will lead to a more satisfactory recovery.

HOMŒOPATHIC TREATMENT OF INFLAMMATION AND ITS TERMINATIONS.

It would be superfluous to tell a Homœopathic audience of the value of our remedies in inflammation, suppuration, ulceration, or in gangrene. Our remedies for these states are well known, their indications precise, and they are used by all surgeons. The treatment of accumulations of pus is somewhat different now-a-days than it was twenty years ago, but the use of *mercurius*, *hepar* and *silicea* will continue even though other changes come about. It is the great beauty of our system that it is not founded upon the shifting sands of pathology. Lawson Tait said that he had to learn and unlearn five different theories of inflammation. The Homœopathic remedies, *aconite*, *belladonna*, *apis*, etc., are just as useful now as they were before the days of Lawson Tait, and his five theories required five different treatments.

HOMŒOPATHIC TREATMENT OF BONE DISEASES.

There are in the domain of bone diseases certain remedies that appertain almost exclusively to the surgical side. Inflammation, suppuration, caries and necrosis of course, may require the same remedies that are used in like conditions of other tissues, but here we have some special remedies. In fractures we have *calcareæ phosphorica*. In 1834, in Philadelphia, a wealthy old gentleman fractured his femur and as it had not healed together, an operation was determined upon by eminent surgeons. Before the time for the operation arrived, Dr. Hering was consulted. One grain of the phosphate of lime divided in five doses was given to the patient with the advice to put off the operation. Several weeks after this he came in his carriage to see the doctor. The callus was felt by the surgeons about ten days after the powder was given. The callus contained certainly 50 or 60 times as much phosphate of lime as had been taken. As he had not even allowed the two ends of the bones to be rubbed together, there was no doubt that the phosphate of lime given him as a nutritive remedy had acted as a functional one; that is, it had acted as a stimulant to the organism to draw from the food of the patient the necessary pabulum required, or phosphate of lime. *Calcareæ phosphoricæ* is not a remedy for a complete absence of phosphate of lime or perhaps for even a deficiency of it in the system. There may be plenty of it and it may even be in excess in the urine, but it is a remedy for non-assimilation of phosphate of lime, there may be plenty of it, and yet it is not assimilated. In case of fracture where this non-assimilation is present the remedy will work wonders. Also in rickets, osteo-malacia, etc., it is a valuable remedy. Then, too, there is *sympitum*, which is an excellent remedy for irritability at the point of fracture. In caries we have *asafetida* and *aurum* and what surgeon could do without such remedies as *calcareæ fluorica*, *fluoric acid*, *hecla lava*, *platinum*, *stillingia* and *strontium*. It seems to me that these remedies are essentially necessary to the surgeon's materia medica armamentarium.

HOMŒOPATHIC TREATMENT OF TUMORS.

Not without some trepidation do I approach this subject which has been the cause of many an acrimonious debate in our medical gatherings. Works have been written on the subject, the entire literature of the school has been gone over and hundreds of cases have been cited to prove that our remedies certainly exert an influence on morbid growths. Materia medica men are apt to accuse the surgeons of being too anxious to use the knife and on the other hand surgeons accuse the materia medica enthusiasts of procrastinating its use until so much valuable time has been lost that they are really handicapped in their work. It seems to me that by combining the two ideas that the safest course, namely, the middle one, is to be reached and our patients offered the best chance. There is no doubt in my own mind of the power of certain of our remedies in curing tumors and in preventing their development. Let us consider for a few moments the drug *conium*. Pliny states that the leaves of conium keep down all tumors, and Stoerck found it effectual in curing scirrhus, ulcers, etc. We possess in

conium a remedy of precious value in antidoting the scrofulous, tuberculous and cancerous cachexias and diatheses. Tumors of a suspicious nature in the mammae have been caused to disappear by the use of conium. If there is any one thing that I am certain of in the domain of Homœopathic therapeutics it is the power of conium in the 30th potency to cure certain lumps in the female breast, it has been my experience to see tumors that were most suspicious disappear by the use of this remedy. Of course, the indications must be present here, as always, when a remedy is prescribed, and they are the piercing pains, tender glands, fugitive stitches here and there, etc. More especially is it indicated if the lump dates from some injury as from a blow. I do not know but other potencies would do the same, but I have found the 30th satisfactory and could cite a number of cases where it worked well.

I am fully aware of the disasters brought on by procrastination in such cases and that to the great injury of the patient, but in most cases of mammary tumors in the early stages the waiting of a week or two will not harm if the case be watched. This brings us to the consideration of cancers. Conium has undoubtedly checked, if not cured, cancers of the breast, lip and stomach. Its special field, however, seems to be on glandular structure and so it is especially useful in breast cases. The history of conium in cancer is a very old one, but it should be remembered, at the time when this history was forming, every hard swelling in the mammary gland was regarded as cancer, hence it is probable enough, as Professor Benedikt says, it does not cure true scirrhus. But now and again we meet with a hard tumor in the breast, often enough doubtless mistaken for cancer, which conium certainly does cure. Of this, several cases have come under my own personal observation. Sir Astly Cooper drew attention to this fact many years ago.

Another invaluable remedy is *hydrastis*. This is of undoubted value in cancer, being often palliative if not curative. The great debility, the emaciation, the cachexia, all correspond to the field of the remedy. We have records where tumors of the stomach and pylorus have disappeared under the continued use of *hydrastis*, of lupus, epithelioma and malignant ulcers. In cancer it removes the pain, modifies the discharge and improves the general health to a marked degree. In the early stages of scirrhus, when it is in a gland or near one, it has worked well. Compare the diathesis, the worn, jaded look, the sallow complexion, the hidebound state of the skin, the low spirits, the loss of appetite and the constipation, and see how close is the similimum.

There can be no doubt that remedies chosen according to the law of similars can cure tumors. Too many cases are on record of patients who have had the knife held out to them as their sole relief and yet who were permanently cured by subsequent Homœopathic treatment. But such treatment to be successful must be persistent and patient. The art of curing tumors can be learned by each of us by following out the law of selecting the remedy FOR THE PATIENT rather than for the exact

pathological state as expressed by the tumor. THIS is but one symptom, valuable, but not the chief one. Remember that tumors cannot be cured very rapidly, they are slow in developing, and as a rule, equally slow in disappearing. They are vital products, living growths. Speaking broadly the tumor takes proportionately as long to be cured by medicines as it has taken to grow. And then remember that a tumor has often existed a long time BEFORE it is discovered. It had a life history, a formative stage before you diagnosed it.

But even if it is an operative case, the remedy may be used for the condition of the patient which permitted its growth and in recurring cases it will exert an influence to prevent its return. It is important to remember this in the more malignant tumors. Of course these two mentioned remedies are not the only ones for tumors; we must not forget *Phytolacca*, *Baryta carbonica*, *Kreasote*, *Asterias* or *Arsenicum* and many others that may suggest themselves from the symptoms of the patient, not the tumor.

I have seen *Lapis albus* cure goitres but it will not cure all, I have seen *Calcarea* correct a mal-nutrition which permitted adenomata and the latter disappear, therefore it seems to be the duty of the surgeon to combine his operative treatment with a homœopathic constitutional treatment to secure the best and most permanent results.

In hemorrhoidal tumors it has always been a question whether the various operations of removal, strangulation, etc., ever really cured the patient. It cures the hemorrhoids but what of the cause that produced them and which without correction continues to operate, perhaps the hemorrhoidal vessels are so effectively done away with by the operation that the patient can have no more piles in the region of the rectum, but may they not appear internally along the intestinal tract and set up more serious disturbances?

Nux vomica and *Collinsonia* and other remedies are credited with doing much for the hemorrhoidal diathesis. Why not give them a chance?

THE HOMŒOPATHIC TREATMENT OF SHOCK.

It is the treatment of that condition known as surgical shock that our Homœopathic remedies have won laurels. Take for instance, *Veratrum album*, how perfectly its pathogenesis corresponds to a case of shock; the coldness of the extremities, the pallor of the face, the relaxed muscles, the imperceptible breathing and the Hippocratic countenance. It requires courage in such cases to rely on *veratrum*, that is for the first few times. Those who do rely on it however, know that it is far safer than strychnine injections and followed by no reaction appearing later to retard recovery. It should be given in the 3 potency or higher, do not give it too low. The tendency to neglect our remedies in the treatment of shock is a growing one, cardiac stimulants, spinal stimulants injections of saline solutions have well nigh superseded the older and better methods of prescribing Homœopathically for the patient. I have seen more than one case over-stimulated with injections of strychnine, in other words poisoned by the drug and it is my belief founded upon an observation of over twenty years that as a

rule patients have a less chance of recovery when such stimulating methods are employed than when treated with the Homœopathic remedy. The normal saline solution is not open to the objections to strychnine. *Veratrum* is by no means the only remedy in shock, there are others. *Camphora*, *Arnica*, *Cinchona*, *Carbo vegetabilis* and others are shock remedies but I believe *veratrum* will be ofteneft indicated.

HOMŒOPATHIC TRÉATMENT OF CONDITIONS FOLLOWING OPERATIONS.

There are many conditions that follow operations such as a peritonitis following a laparotomy, complications so called that will demand the use of the remedy, these, however partake of the character of traumatic injuries and are to be so treated. Much success has been had in saving lives by the post-operative application of the remedy and it is in this field great proof is furnished that there is something in the application of the remedy to surgical cases.

A FEW GENERALITIES.

There are many other places where the Homœopathic remedy will aid and supplement the work of the surgeon. In threatened uremia after abdominal operations, with renal pains and so along the ureters to the bladder with a desire to urinate, with a passage of a few drops only, *Apis mellifica* will often render such procedures as a hypodermic injection of pilocarpine unnecessary. *Ciniciifuga* will often relieve the backache following gynecological plastic surgery. *Bryonia* is of use in thoracic complications arising from an anesthetic, and *Antimonium tartaricum* may be needed to correct a bronchial irritation following ether. The reconstructing remedies of course will find a place in the case of the surgeon such as *Cinchona*, *Calcareæ phosphorica* and *Sulphur*. In troublesome flatulence following abdominal operations we will have recourse to *Cinchona* and *Lycopodium*. And so one might go on until almost all the remedies in the materia medica might be called into requisition or suggested in surgical practice.

The foregoing is what Homœopathy can do for surgery, merely suggestive but allowing of a growth that is almost prodigious and our surgeons by availing themselves of this super-added knowledge place their results in the surgical field far beyond the surgeons of those schools of medicine which lack, or fail to use this greatest of all surgical adjuvants. There is such a thing as Homœopathic surgery and there are such beings as Homœopathic surgeons and they are the best the world furnishes.—*North American Journal of Homœopathy*, June, 1902.

WILLIAM TOD HELMUTH.

Born 1833—Died May 15, 1902.

"We hold reunions, not for the dead, for there is nothing on all the earth that you and I can do for the dead. They are past our help and past our praise. We can add to them no glory, we can give to them no immortality. They do not need us, but forever and forever more we need them."

It is not always obvious what most of us were born for, nor indeed, why almost any one might not have been born at all. At times, however, it seems that a man is sent into this world with a particular mission to perform. His energy, his enthusiasm, his genius fit him pre-eminently for his chosen task. He achieves greatly, rapidly, and skilfully. After a time it is perceived that what he has done has become an integral part of events. When the pallid messenger, with torch inverted, beckoned to William Tod Helmuth on that May morning, there went from us to the undiscovered country, a man peculiarly well equipped for the part he had played so long and so well. The knowledge of his death brought sorrow not only to the entire Homœopathic profession, but to thousands who knew nothing of the boundary lines of medicine.

For his fame was widespread. He belonged not to New York alone, but to the United States, not to the Homœopathic profession solely, but to suffering humanity the world over. They loved him in the presence of his glowing youth as he walked with easy effort to success; they loved him in the flush of splendid manhood when the Homœopathic School gave him its allegiance and they love him now as he lies under the May skies tranquil and still. But this is neither time nor place for eulogy. They who deserve eulogy do not need it, and they who deserve it not, are diminished by it.

William Tod Helmuth, A.M., M.D., LL.D., was born in Philadelphia, Pa., in 1833. His literary education was obtained at St. Timothy's College, Baltimore, and in 1850 he began the study of medicine in the Homœopathic College of Pennsylvania under the direction of his uncle, Dr. W. S. Helmuth, then Professor of Theory and Practice of Medicine in the college. Graduating in 1853, two years later, he was elected Professor of Anatomy at his Alma Mater and the same year published his first book, a volume of over six hundred pages, and entitled, "Surgery and Its Adaptation to Homœopathic Practice." With this publication virtually began that remarkable surgical career which made the name of Helmuth famed.

Attracted by the possibilities of the West in 1858, he removed to St. Louis. He at once became a marked figure in the professional and social life of the town, and aided with all his ability the Homœopathic School. Instrumental in establishing the St. Louis College of Homœopathic Physicians and Surgeons, he was made its Dean and Professor of Surgery. In 1867 he was chosen President of the American Institute of Homœopathy then in session in New York. The following year he spent in Europe perfecting himself in surgery. His reputation by this time was widespread.

He had already achieved prominence and was recognized as the leading surgeon of the new school. In 1870 he accepted a very flattering offer from the New York Homœopathic Medical College and Hospital, and came to this city. Upon his departure from St. Louis the citizens and physicians tendered him a magnificent banquet and presented him with a splendid silver service. His great success in New York, both as a surgeon and as professor of surgery in this college, is well known.

After the publication of his great work, "Helmuth's System of Surgery," he became one of the most marked and distinguished surgeons of the great metropolis. In 1888 Yale University bestowed upon him the degree of LL.D. But it is impossible to enumerate all his varied activities and interests, nor is it necessary to do so. It is quite sufficient to note in addition, that his contributions to medical Journals were numerous and important; that he was constantly called upon to preside over societies, banquets and meetings, and that he was an honorary member of many famous foreign societies. For many years he was one of the editors of the NORTH AMERICAN, and had contributed to it his most noted surgical papers. His last paper was published in the jubilee number of this journal, and attracted much attention. For nearly ten years he had served as Dean of the New York Homœopathic Medical College and Hospital, discharging the difficult and arduous duties of that office with rare tact and fidelity. For several years he had desired to resign the position, but the trustees prevailed upon him to remain. His relations with the students during his thirty-two years of active teaching were very close and affectionate. He was by far the most popular lecturer in the college.

Dr. Helmuth was a many sided man. His sympathies were broad, his tastes were catholic. He was interested in all that pertained to humanity. His mental horizon was not bounded by the medical sky, but had a wider and ever increasing circumference.

To Dr. Helmuth, the Homœopathic School gives that silent but heart felt tribute that is offered only to those who greatly serve. To his brilliancy in surgery, his triumphs in oratory, his victories in diplomacy, Homœopathy owes much of its present fame and prestige.* His memory shall endure, not alone because of his extraordinary skill in surgery, or his eloquence as an orator, or his wide and varied learning and elegant scholarship which would justify the application to him of Johnson's felicitous expression, "He touched nothing which he did not adorn;" not these alone, although these are striking and uncommon qualities, but because of his rare culture, his kindness of spirit and his unfailing charity. But he is gone to the undiscovered country. His sun went down in the West, but sank amid the prophetic splendors of an eternal dawn.

* "Not only in medicine and surgery were his abilities spent, several volumes of poems have appeared from his pen, and he was known throughout the profession as the poet surgeon of homœopathy."—*Monthly Homœopathic Review*, July 1902.

His work was not ended, but of him as Stedman said of the great New England romancer.

"What though his work unfinished lies ? half bent
The rainbow's arch fades out in upper air ;
The shining cataract halfway down the heights,
Breaks into mist ; the haunting strain that fell
On listeners unaware
Ends incomplete ; but through the starry night ;
The ear still waits for what it did not tell."

—*North American Journal of Homœopathy*, June 1902.

PROFESSOR HELMUTH'S LAST POEM.

"The following poem was to have been delivered by Dr. Helmuth at the banquet given in honour of Dr. Selden H. Talcott, May 14th, on the presenting of the loving cup. Being detained by illness, which in a few hours resulted in death, the poem was read by Dr. George W. Roberts :—

"Look at my hair and see it silver grey,
Look at my eyes, behold the dangling glasses,
Look at my ears, you know full well that they
Are not acute to every sound that passes.

You knew me when these same old locks were brown,
With ears responsive, and eyes quick to see,
I recollect when you came up to town
With letters introductory to me.

A stripling then from dear old Munger's care,
Burning with the Æsculapian flame,
With slender body and with flowing hair,
Up to your Alma Mater's courts you came.

Do you remember then that I was teaching
The new suspension for a fractured thigh ?
The old straight splint of Physic was impeaching
When you besought me Munger's splint to try.

Take down the worn old volume from the shelves,
Turn you to page five hundred ninety-five.
Ah ! mem'ry then will tell us of ourselves,
Both you and I—Thank God we are alive.

As retrospection stealeth o'er the years
To touch the men who lectured then to you,
Our hearts grow sad—our eyes o'erflow with tears,
So many gone—the remnant still so few.

But I must play you Ganymede to-night,
 And give this cup all filled with ruby wine
 In friendship's name from those who with delight
 Have watched your progress since you fell in line.

Take it, old man, with all the love it offers,
 Take it and keep it, for it tells a story.
 Take it, 'tis better than o'erflowing coffers,
 Take it resplendent with true friendship's glory."

—*Medical Century* of June quoted in *Monthly Homœopathic Review*, July, 1, 1902.

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THE
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VOL. xxi.] Sept 1902. [No. 9.

DRUG ATTENUATION.

II.

(Continued from Vol. xxi, No. 8, p. 317.)

In our last we presented our readers with the early history of Drug attenuation in the language of Dr. Jabez Dake. This history, as will have been seen, was concerned with the development of Hahnemann's ideas on the subject. The processes he adopted for the diminution of the dose or of the quantity of medicine proper to be administered on homœopathic principles, led him to observe effects which startled him and made him believe that he had stumbled upon a new discovery in pharmacy and in chemistry. The apparent development of new powers in inert or very nearly inert substances tempted him to theorize on the subject till he came to the conclusion that the dynamic powers of drugs could be disengaged or liberated from their material envelopes by successive trituration or succussion with what he considered non-medicinal substances, such as sugar of milk, water and alcohol. Instead of calling these successive triturations dilutions or attenuations of the drugs he called them dynamizations or potencies, and instead of calling these lower which they should have been considering the actual diminution at each step of the

quantity of drug-matter he called them higher having reference to the supposed increase of drug-power. His speculations and theories was the causal precursor of the later history of drug attenuation with which his disciples were and are still concerned, and which we present to our readers in the language of the same author.

“ II. LATER HISTORY.

Before the death of Hahnemann some of his followers, especially some who had received no medical education, and who were full of enthusiasm and zeal, caught the idea of ‘ a great unknown and undreamed of change by the development and liberation of the dynamic powers of a medicine,’ and went on with the *shaking and grinding* to an extreme ‘ unknown and undreamed of ’ by the master himself.

The first of these to attract attention by his practical efforts, in the dynamising pharmacy, was Korsakoff, a Russian general, sometimes known as the ‘ Sarmatian Count.’

1. *Dry contact potencies by Korsakoff.*

Going a step beyond Hahnemann, he discarded the method of attenuation by solution, in making very high potencies. He considered it necessary merely to put one dry, medicated pellet in a bottle full of pure sugar pellets, in order to medicate the whole. In this manner he claimed to make potencies higher than ever thought of before.

Although Hahnemann looked suspiciously upon the dry pills of the new method, he had not the courage to discard them openly and fully, especially as alleged cures, by their influence, seemed calculated to support his theory of dynamisation as well as his therapeutic law.

Drs. Gross and Plaubel accepted the preparations of the Count with great satisfaction, the former claiming to cure congestions with sugar pellets, which had been shaken in a bottle with one pellet previously moistened with a dilution of his own blood.

2. *Jenichen's high potencies.*

But other lay enthusiasts came into the field to share the fame of Korsakoff. Jenichen, of Wismar, distinguished only for his herculean strength of arm and hand, claimed to develop the spiritual power of drugs by vigorous shaking, counting an additional potency for every ten shakes given. His method was kept

a profound secret, known only to his greatest admirer, Dr. Hering, of Philadelphia. Although correctly guessed by some, who put together hints at times dropped by Jenichen, Dr. Hering utterly refused them the satisfaction of knowing that they were right, till the year before his death, in 1880.

The great secret was nothing wonderful when told, except as showing how utterly devoid of all merit a measure may be, and yet find acceptance with men of education and common sense.

Jenichen took a bottle having no moisture, that had contained the 29th centesimal dilution of Plumbum, and filling it partly full of alcohol, shook it vigorously. He then put a drop of the dilution thus made, in a long thin bottle partly filled with alcohol, and shook it with such force, as to jar the building in which he worked, counting, as I have said, one degree of increased potency for every ten shakes.

This is the grand secret so much sought for, and so long denied the curious world by Dr. Hering.

When urged to publish it, more than thirty years ago, the doctor ventured the following reply, which only excited increased curiosity: 'In Jenichen's preparations—1. The quantity of the vehicle is much greater in proportion to the medicine; 2. The shaking was much more powerful and longer continued; 3. The numbers express the degrees, and that in an exact proportion; 4. It would be difficult to find any one who could imitate Jenichen's method of preparing high potencies; 5. Jenichen has left behind him a sufficient quantity of his preparations to serve us and our children's children.'

In the light of the great revelation, made by Dr. Hering, it is difficult to understand why no one 'could imitate Jenichen's method,' unless the faith of the 'horse-trainer' and his strength of arm were unequalled in all the world!

In view of the fact that new medicines were constantly coming into use that required potentising, it seems not a little strange that the keeper of the secret should say, as an excuse for not revealing it to others, 'Jenichen has left behind him a sufficient quantity of his preparations to serve us and our children's children!'

But Dr. Hering was not alone in accepting the high potencies of Jenichen. Gross, Stapf, Brunninghausen, Rummel and others,

have filled our journals and our books with wonderful cures accomplished by high potencies, using his preparations.

In view of what is now positively known of his particular method, what shall we think of the clinical experiences of such men, and of the deductions from them?

3. *Lehrmann's high potencies.*

After Korsakoff and Jenichen came Lehrmann, with potencies claiming to be the 200th, endorsed and used by Bönninghausen and others, in Germany, and brought into use in America, chiefly through the efforts of Dr. Dunham. And Dr. Dunham himself carried medicines up to the 200th potency, the shaking being done by a wheel run by water power.

5. *Fincke's high potencies.*

Then came Dr. B. Fincke, of Brooklyn, N.Y., who by a patent process of attenuation has claimed to potentise medicines to a very high degree by the 'fluxion method.' He puts one hundred drops of the first dilution in a tumbler, and allows a stream of hydrant water to run from a height into the glass. For each drachm of water, running in and out, he reckons one degree of increased potency.

When a hundred drachms have passed from the reservoir above he calls the contents of the tumbler the 100th potency.

He counts nothing upon the shakes, but all upon the quantity and force of water. His preparations have been marked high, very high, and have, like those of Jenichen, been credited with many and wonderful cures.

Dr. Boericke, of Philadelphia, a few years ago, constructed a machine by which the potentising glass would be thoroughly shaken as well as filled and emptied. His effort was merely experimental, and in keeping with the high potency rage that, for a time, controlled the college in Philadelphia.

The 'bottle washing' method has been largely carried on, these later years, by Dr. Samuel Swan, of New York, and Dr. Skinner, of Liverpool, as well as by Dr. Fincke.

Machines for the purpose have also been invented by Dr. Burdick, and by Dr. Deschere, of New York.

I cannot stop to speak of the unimportant differences in the methods and products of all these. I have mentioned enough of the ir peculiarities to show how far removed they have been from

the methods of Hahnemann, and how little the master could have dreamed of the utter foolishness that would be perpetrated in the name of his theory of drug potentisation.

5. *Conclusions from later history.*

Looking carefully over the methods and means employed since the time of Hahnemann, we are led to the following conclusions :

1. That some persons have acted upon his theory of dilution, endeavouring to gain spiritual power by the rapid wasting of drug matter.

2. That some have acted upon his theory of succussion, endeavouring to develop greater power by mechanical agitation, without dilution.

3. That others have endeavoured to act upon both theories at once by much shaking and much washing of once medicated bottles.

4. That nearly all have exceeded the utmost limits thought of by Hahnemann, in the diminution of drug matter and development of drug power."

The reader cannot fail to note that the great master himself was responsible for the Korsakoff dry method of potentizing. In a note to § 288 of the *Organon* we have the following : " It is especially in the form of vapor, by olfaction and inhalation of the medicinal aura that is always emanating from a globule impregnated with a medicinal fluid in a high development of power, and placed, dry, in a small phial, that the homœopathic remedies act more surely and most powerfully. The homœopathic physician allows the patient to hold the open mouth of the phial first in one nostril, and in the act of inspiration draw the air out of it into himself and then, if it is wished to give a stronger dose, smell in the same manner with the other nostril, more or less strongly, according to the strength it is intended the dose should be ; he then corks up the phial and replaces it in his pocket case, to prevent any misuse of it, and *unless he wish it he has no occasion for an apothecary's assistance in his practice.* A globule of which ten, twenty or one hundred weigh one grain, impregnated with the thirtieth potentized dilution, and then dried, retains for this purpose all its power *undiminished* for at least eighteen or twenty years (my experience extends this length of time), even

though the phial be opened a thousand times during that period, if it be but protected from heat and the sun's light." If the medicinal aura emanating from such a globule can, impinging upon the mucous membrane of the nostril or the mouth, permeate the whole organism, what wonder that it should permeate and impregnate a whole phialful of unmedicated globules?

And if such a globule can infect a whole mass of globules in the midst of which it is placed, and if one of this mass of globules can infect another mass, much more can a drop of a medicinal fluid infect or impart its properties to a quantity of water or alcohol by simple contact, and a drop of this water or alcohol can similarly infect any quantity of water or alcohol with which it may be made to come in contact. Thus it will be seen that the method of fluxions or bottle washings as a method of potentizing is but an easy transition from the Korsakoff dry method. And thus all the vagaries of his disciples may be traced to the utterances made by Hahnemann at various times, utterances which were not unnatural from a mind bewildered by the facts that came to light from the processes of trituration and succussion which he had adopted at first for the attenuation or diminution of the quantity of drug-matter for the purpose of reducing the dose of the homœopathically selected drug, but which afterwards he thought were real potentizers or dynamizers.

Strange as it may seem Hahnemann was directly responsible for the Jenichen method of simply increasing the number of shakes for the preparation of the higher potencies. In the note to § 270 of the *Organon* we read: "There are, however, homœopathists who carry about with them on their visits to patients the homœopathic medicines in the fluid state, and who yet assert that they do not become more highly potentized in the course of time, but they thereby show their want of ability to observe correctly. I dissolved a grain of soda in half an ounce of water mixed with alcohol in a phial which was thereby filled two-thirds full, and shook this solution continuously for half an hour, and this fluid was in potency and energy equal to the thirtieth development of power." We are not told by what method he arrived at this astounding conclusion. We are not aware of any physical or chemical method by which the potency and energy of this solution of soda shaken

continuously for half an hour could be shown to be equal to the thirtieth development of power. The only conceivable method is that furnished by clinical evidence, or he must have had some other proof known only to himself. He who is familiar with clinical evidence will see how difficult, nay how impossible, it is to make the definite assertion Hahnemann has made as to the equivalence of the two different solutions, one made by the simple shaking of the crude substance in a mixture of water and alcohol, and the other by the actual successive diminution of the same substance by the method recommended by himself. We are therefore constrained to say this was one of the most gratuitous of Hahnemann's dogmatic assertions which had led to a method of drug attenuation which in itself is condemnable, and which having been kept a secret we can not but characterize as a fraud upon the homœopathic public. It pains us to say that the most singular part in this Jenichen drama was played by one of Hahnemann's greatest followers, no less a person than the late Dr. Constantine Hering who, knowing the secret, kept it so on a plea the most absurd and ridiculous imaginable.

(To be continued.)

ETIQUETTE VERSUS HUMAN LIFE.

History repeats itself. Recently it has repeated itself in a far-off island in the Pacific, the South island of the New Zealand group, a colony of Great Britain. The actual scene of the repetition was Dunedin, the capital of the provincial district of Otago, a city of great commercial importance. Dunedin boasts of a high school and a university, a mechanic's institute, a medical association, a hospital, a lunatic asylum, churches both Protestant and Roman Catholic, and a bank, the Bank of New Zealand, the finest building in the city. There are several medical practitioners among whom we find one at least, Dr. Stephenson, who, though originally a "regular," practises homœopathy finding it to be superior to the old school methods in which he was trained. We learn from Dr. Stephenson's statement that the old school members "have generally given him such assistance as was necessary at a moment's notice, especially in cases of a surgical character." But on the particular occasion under notice two regulars displayed a spirit of intolerance

and bigotry which has scandalized the profession in that far-off quarter of the globe.

The occasion was this: Dr. Stephenson, as family physician of a chemist of the city, Mr. G. M. Marshall, was treating his wife about to be confined. Finding the case serious and apprehending danger to the life of the patient unless an operation was performed, he asked Mr. Marshall to call in a doctor with a particular instrument. On being asked whom he was to bring in, Dr. Stephenson said, "never mind who it is, get the nearest but ask him to bring the instrument (he named) with him."

The first and second doctors Mr. Marshall went to were away, but observing on the door plate of the latter the notice that callers were to see Dr. M'Kellar, he rang up this doctor but received from him the reply that he had had no experience in such a case as he had described, nor had he the necessary instrument; he was told to get Dr. Davies and failing him Dr. Closs as both had the instrument wanted. "I lost no time in getting to Dr. Davies's place," says Mr. Marshall. 'As I rang the bell I noticed a speaking tube at the door, and in a moment or so Dr. Davies spoke to me through it. I told him the circumstances, and impressed the urgency of the case upon him. He replied, 'Dr. Stephenson is a homœopathist, and I cannot meet him in consultation.' I replied 'For God's sake, doctor, don't say say that. It is a case of life and death.' He answered, 'I cannot help that; it's all the more reason why I cannot come'. I pressed him but he simply repeated that he could not come. Seeing that he was resolved, I wasted no more time, but ran to Dr. Closs's. His answer was, 'I will not go,' and at last he shut the window and left me on the street. Hardly knowing what to do, I ran down to my shop, and luckily finding my keys in my pocket I opened the door and lit the gas. The telephone list was in front of me, and the first name that caught my eye was Dr. Macpherson's. I knew that he would not fail me, and I rang him up, receiving at once the answer, without a moment's hesitation, that he would come immediately. I went along the street and met him in a few minutes. He said that he had all the instruments that would be needed except one, and he would get the loan of that from Dr. Martin. We hurried to Dr. Martin's, got the instrument, and

rushed to my place in Lower London Street. On the way Dr. Macpherson said that if there were forty homœopaths in the house he would not mind. In ordinary cases, he said, their systems were diametrically opposed, and it would not be much use their meeting; but in a critical case of surgery he made it a rule to sink all differences. When we got into the house at 8 o'clock we found the crisis had come, and Mrs. Marshall was desperately bad. Dr. Macpherson as a last resource, and after he had made an examination and seen what was necessary, said the only hope was to have an operation, and that he would like Dr. Stanley Batchelor with him to assist. He said he would run to the nearest telephone. I suggested Mr. Wilkinson, chemist, in George Street. The doctor then rung up Dr. Stanley Batchelor, who said without hesitation that he would come at once; but on Dr. Macpherson's return to my house he found my wife was dying, and beyond all possibility of help."

Thus there was sacrifice of a human life at the altar of professional etiquette. And what is this etiquette. It is all on one side. It is an inhuman rule observed by the old school against the new. Fortunately the number of those who observe it are becoming less and less with the advance of public opinion and let us hope with the advance of knowledge and of humanity in the profession itself. But still there are many who do observe it to the disgrace and scandal of the most sacred profession on earth, a profession whose watch-word should be humanity first, humanity second, and humanity last. This should be the regulating principle of the conduct of all who have taken to the calling of relieving suffering and saving life. That the conduct of Drs. Davies and Closs should have roused the indignation of the whole community of Dunedin is what was expected. The explanations offered by the doctors in justification of their conduct are, to say the least of them, absurd and extraordinary. Dr. Davies's is so much so that we give it entire.

"Mr. Marshall's story is not complete, in so far as it omits the fact that I told him I had not got the instrument. I told him that more than once in answer to his message that he was to bring me and the instrument as well. Of course it would have been no use my going without the instrument. I said I had not got it, but that in any case I would not consult with Dr. Stephenson. Mr. Marshall then said that the patient was in a very serious condition, and I replied that I considered that all the more reason why I should not consult with Dr. Stephenson. Those are the facts, and I thank you for the opportunity of giving my answer. I can understand that in a country place where there are only two medical men, say one homœopathist and one allopathist, if one asks assistance from the other in a

case of life or death, such as this was, it is an absolute necessity that they should meet. It would be cruel if they did not. But in a city like Dunedin, where there are a large number of doctors, knowing, as I do know, that some have not the slightest objection to meeting a homœopathist or even a travelling quack, I consider that I, as one of those who do object, have a perfect right to refuse to attend, leaving the case to others who do not mind to attend if they see fit to do so. My refusal causes no extra risk or suffering to the unfortunate patient when others are willing to attend. I consider that my skill is my own property, and that I should not be compelled to dispense with (*sic*) it. As a matter of fact I cannot be compelled to dispense with it. You may drag a horse to the water, but you cannot force him to drink. If I am compelled to go to a case, I cannot be compelled to use my skill upon it. Supposing I had gone under compulsion, does it necessarily follow that the patient would have got the benefit of my skill? If I had gone under protest as would have been the case if I went at all, I should have felt very uncomfortable. It is only a few months ago that the same sort of thing happened to me. That, however, was a case in which there was no question of instrument. Dr. Riley sent to me a message much the same which Mr. Marshall brought, and I went without the slightest hesitation, because Dr. Riley is an allopathic doctor. I might have refused if I had chosen, but I would have considered that I was acting wrongly by a brother practitioner. I do not consider Dr. Stephenson a brother practitioner. Our systems are utterly dissimilar, and in those circumstances the result would be decidedly prejudicial instead of beneficial to the patient's prospects of recovery."

Dr. Closs's defence was that Mr. Marshall did not mention what the case was and who was in attendance. He "naturally assumed that the case was in charge of a nurse, who wished a medical man to help her out of the trouble," and therefore "declined to go, and referred him to Pitt Street." If the name of Dr. Stephenson had been mentioned he would have gone as he had previously consulted with the doctor. This is a lame and puerile excuse for not attending a case which, Mr. Marshall avers, was described to him as a bad case of confinement and one of life and death.

The *Otago Daily Times* of the 19th May has the following editorial (which we have taken from the *Monthly Homœopathic Review* of August) on this sad and melancholy affair. The "high and bold stand" the editor has taken against medical bigotry and intolerance is deserving of our highest praise.

"It is with a sense of deep pain we publish this morning some particulars of the sad occurrence that surround the death on

Thursday last of the wife of Mr. G. M. Marshall, of this city. The circumstances disclosed are, indeed, of so melancholy a character, and reflect so strongly on the humanity of at least one of Dunedin's prominent medical men, as to cast an almost indelible stigma on an honourable profession. That stigma can only be removed by the prompt repudiation by the Otago Medical Association of any sympathy with the heartless and utterly callous action and sentiments of the member of the Association referred to. Dr. Davies will find it an exceedingly difficult thing to convince this community that the attitude assumed by him in connection with this distressing case can be justified, on any ground but that of a hide-bound adherence to professional etiquette of so cruel a character, as to revolt the feelings of all who read the piteous tale. It has become an axiom with those who follow the profession of medicine that their calling is a noble one; that the alleviation of the sufferings of those who are stricken with disease, or who from accident or natural causes require the skilled and patient and soothing aid of a trusted practitioner, is a duty which brings with its practice the consciousness of a great service rendered to suffering fellow mortals that far outweighs the material rewards that follow. And if medical men are justified in placing their profession on so high a plane, because of the special and invaluable services it renders in the relief of the thousand ills to which flesh is heir, how much more keenly should those services be appreciated when they are rendered at the most critical time of a woman's life—that distressing time when she has a right to look for all the kindness, all the sympathy, her relatives and friends can bestow, and the prompt, skilful, and careful attention of the professional man who is in attendance. Yet it is in such a case, and one of a most critical character, that Dr. Davies belied the humane traditions of his noble calling, turned a deaf ear to the anguished appeal of a distracted husband, and left an unfortunate woman to die under circumstances at once so pathetic and so agonizing that they cannot fail to arouse feelings of the deepest indignation in the community. And what has Dr. Davies to advance in defence of the position he has taken up? It will be seen that the case was one in which the family doctor is a duly qualified allopathic man, who from choice practises homœopathy. He found that the case was going to be a critical one, and that it would necessitate the use of a certain instrument with which he had not provided himself. He informed Mr. Marshall that he thought his wife was going to be very bad, that it would be necessary to get another medical man to assist, and that the latter must bring the instrument referred to. Mr. Marshall at once hurried off for the necessary assistance, and, after ineffec-

tual trials at the residences of three other doctors, two of whom were out and the third a young practitioner who had had no experience in a case such as that described to him, he went to the residence of Dr. Davies and roused him, appealing to him in the most urgent manner to return with him to his house, but without avail. And now let Dr. Davies speak for himself in defence of the position he took up. Saying preliminarily that he told Mr. Marshall he had not got the instrument that was required, and that it would have been no use going without it, he continues: '*In any case, I would not consult with Dr. Stephenson.*' So that it would have made no difference to Dr. Davies had he been in possession of the instrument which alone, it appears, in the hands of a skilful practitioner, would have given this poor woman a chance for her life; he would not have moved a step, because the medical man in attendance on her chose to practice homœopathy. And he then goes on to say, when Mr. Marshall urged that the patient was in a serious condition, 'I replied that I considered that all the more reason why I should not consult with Dr. Stephenson.' There can be only one meaning to this: it is that rather than be associated with a homœopathic practitioner in a case in which there was risk of the patient dying, he was prepared to stand on a miserable point of etiquette, and refuse assistance which might have resulted in a valuable life being saved."

Then quoting further from Dr. Davies's statement the editor goes on:

"The clear inference from the whole of this extraordinary statement is that Dr. Davies, rather than be made 'uncomfortable' by association with a homœopathic practitioner, in a case of life or death, is prepared to let the innocent patient die, it matters not to him in how great agony or under what distressing circumstances. For Dr. Davies's argument that his refusal 'causes no extra risk or suffering to the unfortunate patient when others are willing to attend,' is at once disposed of and shown to be fallacious by what happened in the case of Mrs. Marshall. Fortunately there were medical men with a more liberal and a nobler conception of what is due to their fellow creatures, and the public will honour Dr. Macpherson and Dr. Stanley Batchelor for their prompt response to the appeal that was made to them. But, alas! they were too late to be of service. The lapse of time between the hour at which Dr. Davies was appealed to and that at which Dr. Macpherson arrived on the scene, precluded all chance of a successful application of the surgical skill that ought to have been available at the critical moment. We do not envy Dr. Davies his feelings. It will take all his sophistry and all his laboured argument to convince people who have a spark of feeling

for their fellows, that there can be any justification for the resolute refusal of a medical man to exercise his professional skill in cases where it is urgently demanded; and we shall be surprised if the outraged feelings of the community do not convince him that the callous attitude he has taken up must be abandoned, if he wishes to retain the confidence and respect of his fellows. What we have written with respect to Dr. Davies does not apply to Dr. Closs, for he asserts that he would have been quite willing to meet Dr. Stephenson had he been informed the latter was in attendance in the case; but it seems to us his action in declining to accede to Mr. Marshall's agitated appeal for help, without thoroughly acquainting himself with the circumstances under which it was made, is open to grave censure. What course the Medical Association will choose to take over this distressing case, we do not know. It is obvious that it cannot be allowed to rest. Painful as reference to it must be to the bereaved husband, he will, we feel sure, have the sympathetic support of his friends and the public if he brings the matter formally under the notice of the Association, in the hope that it will, by such action as it may take, prevent the chance of repetition of such a blot on the honour of the profession as the action of Dr. Davies had caused. It appears to us that, so far as the case under notice is concerned, the Association has a clear duty before it. Dr. Stephenson is a duly registered medical man, who, even if he does prefer to practise homœopathy, has an equal right with his brother professionals to ask for the help which is frequently necessary in critical cases. It would be idle for members of the profession to say, as Dr. Davies does, that they do not regard Dr. Stephenson as a professional brother, and to carry that view to the extreme of refusing to associate with him in cases where surgical help is called for. Any duly qualified medical man, placed on the register of the colony by virtue of his diploma, should be placed in the position of being able to secure help, even though he prefers to practice homœopathy, in cases where an allopathic practitioner would have a right to look for it. The general interests of the public should be of first importance in considering the question, not points of professional etiquette or prejudice, and we sincerely trust that liberal counsels will prevail when consideration is given to the matter, and that such a scandal as that to which attention is now being directed will never again be allowed to sully the name of the medical profession in New Zealand."

The Otago Medical Association, (the New Zealand Branch of the British Medical Association), thus called upon, did pass resolutions just to say that there was nothing in the Code of Ethics adopted by the Association which was "inconsistent with the broadest dictates of humanity and that the article of the

code which relates to consultations cannot be correctly interpreted as interfering, under any circumstances, the rendering of professional services whenever there is a pressing or immediate need of them. On the contrary, to meet the emergencies occasioned by disease or accident and to give a helping hand to the distressed without unnecessary delay, is a duty fully enjoined on every member of the profession, both by the letter and by the spirit of the entire code." This enunciation of a platitude without repudiating the conduct of the medical men concerned was deemed highly unsatisfactory and disappointing, and the President had to write to the editor of the *Otago Times* to say that "I regret that our statement was not explicit. It was meant to be so, and I now give you my assurance that the Association DO REPUDIATE the sentiments expressed by Dr. Davies." This opinion was endorsed by the Association at an ordinary meeting. Well may we say with the *Monthly Homœopathic Review*—"This is at last satisfactory although wrung from the President by public opinion. How much better it would have been for the reputation of the Association if this repudiation had come voluntarily and clearly as part of the resolutions, and not as what seems to an outsider very like an after-thought."

There is one point in the statement of Dr. Davies which we have not been able to comprehend. If, as he says, Mr. Marshall's story is not complete in that he had omitted to mention that he had told him he had not the instrument, why should Mr. Marshall have insisted upon his coming notwithstanding; and why, when he knew he was wanted with the instrument, did he not make short matter with Mr. Marshall by declining to attend on that ground alone. Why did he obtrude his want of sympathy with Dr. Stephenson for his homœopathic proclivities? Why did he take this a most unsuitable occasion to show his animus against homœopathy? If he had not done this, no body would or could have blamed him and Dunedin would have been saved a grave scandal. Dr. Davies's contention that his skill is his own property and that he cannot be compelled to dispense it, is untenable so long as he is in the field of practice.

'A NOVEL EXPERIENCE WITH *COFFEA CRUDA*.

On the 4th of this month (September) I had to attend the annual meeting of the Indian Association for the Cultivation of Science, at 5 P.M., as its Secretary, and make a speech which did not occupy more than a little over half an hour. The speech ~~was~~ delivered in my usual manner, and though very weak at the time from a prolonged painful illness of nearly two years, beyond a little fatigue I did not experience any unusual exhaustion.

Some of the audience told me after the meeting that I was very much excited, and this may have been, (though I did not myself feel it) as some of the topics were of an exciting character, and calculated to call forth deep emotions. On return home I noticed the exhaustion which gradually became more and more. It became evident that the effort I made in delivering the speech, slight as it was, was too great for my present condition. I took my usual supper as a matter of duty but I was not refreshed. I could not have my short nap within an hour, as it does come every day. This made me worse, I became restless and now I became excited, so much so that I got alarmed. Though naturally averse to taking drugs, I thought I might quiet the system by taking Coffea. Accordingly I took three or four drops of the 5th decimal at 11 P.M., my time for going to bed. I have never been disappointed by the drug in inducing sleep in my patients. Even in cases of the last stage of tubercular phthisis I have observed its marvellous effects in this direction. Where it had failed to procure actual sleep, it had almost invariably exerted a soothing influence. But in my own case the disappointment was annoying. I got more and more excited after the dose of Coffea. Sleep was out of the question. I tossed about in bed, walked hurriedly in the room, but no rest came. At 3 A.M. I had an inclination to go to the closet. I found I could not walk with ease for some pain in the thighs. In the course of an hour the femoral and inguinal glands became inflamed and perceptibly swollen; the pubic region also was painful and tender to the touch. On the following day fever declared itself, and the swelling and pain of these glands and their connected lymphatic vessels became very much greater, and there was slight pain in one axilla. Though the fever was not violent, the temperature not rising even to 102, my sufferings, especially from insomnia which continued unabated for two days, were so great, and my prostration was so alarming, that I thought my end was come. I had a mind to take some medicine antidotic to coffea. But as I could not decide between Ignatia and Opium, and as I was fearful of further aggravation I did not take any medicine. I made a slow recovery. The worst symptoms passed away in the course of a week. Sleep of short intervals preceded by frequent and deep yawning took the place of the sleeplessness. I began to feel better as I slept longer. My diet was pure milk in small quantities frequently. The lymphatic inflammation did not subside till by the end of this month. •

I have called the above experience with *Coffea Cruda* novel, because I have nowhere seen the symptoms of lymphatic inflammation, I have narrated as developed by a dose of the 5th decimal dilution, recorded under the drug. Even Dr. Clarke's compre-

hensive *Dictionary* does not contain even a semblance of them. In Allen's *Encyclopædia* we find the following symptoms noted as derived from Hahnemann: "She was obliged to lie down after every walk, on account of pain in the limbs. The slightest rubbing of the woollen clothing made the inner side of the thigh sore, or at least caused a painful sensation of soreness." These symptoms cannot, by any stretch of the imagination, be referred to inflammation or any other affection of the lymphatics. That the inflammation of the lymphatics in my case was due to *Coffea* there cannot be the slightest doubt. There was nothing new, on the 4th September or on any days immediately preceding, in my diet or hygienic environment. The only thing new was the delivery of the speech. But this was nothing new to me. I am accustomed to it. It could not cause the blood to gravitate downwards more than the continual straining at micturition which I am having for nearly two years, and which has not during this long time caused the slightest tendency thereto. I am therefore certain that it was the *Coffea* which was responsible for the symptoms that came on in the course of three or four hours after its administration. If the action of the drug had been spent in relieving the brain of its excitability, these symptoms would in all probability not have appeared. Somehow or other the drug having failed to influence the upper sympathetics their action was spent upon the lower so as to affect the circulation of the lymphatics concerned. This is my explanation, but whether it is correct or not, there cannot be the slightest question that *Coffea* did produce, in my case, inflammation of the lymphatics, including the glands, of the inguinal, the femoral, and the pubic regions.

This fact has led me to draw an inference which, if legitimate, would be of considerable importance. It is this: That *Coffea* may be of use in the first stage of bubonic Plague in which there is distressing insomnia and the characteristic buboes, or even before their development.

It may be asked, if the lymphatic inflammations that were developed in me were real pathogenetic effects of *Coffea*, how is it that they have been over-looked so long. To this one answer may be, that they are so unusual that people never thought of referring them to the drug even if produced by it. But the true answer seems to me to be, that they are not what may be called absolute effects of *Coffea*, but belong to the category of what the late Dr. Drysdale, and agreeing with him Dr. Hayward has called contingent effects which can only be developed in especially susceptible individuals and under especial conditions. But they are not the less real, and on that account they are the more valuable as affording indications for treatment.

EDITOR'S NOTES.

An Early Sign of Pleuritic Exudation.

Przewalski (*Centralbl. f. Chir.*, No. 14, 1902) stated that on careful examination of the thorax in very early stages of pleurisy with exudation, he has in a number of cases—14 of pleuritis serosa and 5 of pleuritis suppurativa—invariably observed a narrowing of the intercostal space and a marked resistance of the intercostal muscles on the affected side. The approximation of the ribs on the side of the chest containing the exudation is, the author states, very characteristic, and seems to present some analogy to the muscular contraction observed in the affected limb in cases of arthritis. This, which is regarded as a constant and typical anatomical sign of pleurisy with exudation, is attributed to a fixed attribute of the ribs corresponding to the seat of disease, the immobility being very probably due to reflex contracture of the internal intercostal muscles.—*Brit. Med. Journ.*, Aug. 16, 1902.

The Value of Skiagraphy in Penetrating Gunshot Wounds of the Head.

Contremoulins (*Centralbl. f. Chir.*, No. 21, 1902) criticises certain statements assumed to have been made by von Bergmann in a previous number of the British Medical Journal, that the Roentgen rays are incapable of indicating the precise seat of a bullet in the brain, and that it is inadvisable to make any attempt under the guidance of skiagraphy to remove the foreign body from the intracranial cavity. Mention is made of the discovery by Contremoulins in 1897 of a new method of applying the rays in gunshot wounds of the head, which by the use of special apparatus rendered possible exact localization of the bullet in the brain, and also facilitated in many instances surgical extraction of the foreign body. In a brief editorial review of this paper von Bergmann states that he has been misunderstood by Contremoulins, as he had never doubted that the situation of a bullet in the brain could be revealed by the rays. He maintains, however, (1) that a search by surgical intervention for bullet in the brain is generally useless and that it too often does harm rather than good, since if the internal capsule has been penetrated the surgeon is likely to do more injury to the conducting and associating tracks than has been done by the foreign body; and (2) that any attempt to find a bullet in the base of the cranium is likely, in spite of excellent skiagraphs, to be met by insurmountable difficulties. The seat of a bullet

in the brain can, von Bergmann acknowledges, be determined with the utmost certainty by means of the rays, but the removal of such foreign body, it is held, is in most instances unnecessary, and often dangerous and impossible.—*Brit. Med. Journ.*, Aug. 16, 1902. .

Lord Roberts's Advice to the Surgeons-on-Probation for the Indian Medical Service.

The 29th of July last saw the last Session, and the last day, of the Army Medical School, Netley. Lord Roberts, after distributing the Prizes to the successful candidates, delivered an address of which the following concluding portion ought to gladden the hearts of the "lower grades" of the Indian Medical Service. But would the Surgeons-on-Probation remember the advice, when they enter the service? Would they give up the supercilious contempt with which their seniors treat the "natives"?

I have said enough to show you the unique prospects that are open to you and it only remains for me to congratulate you all on the successful conclusion of your labours here and to express the hope that in the large field which you are about to enter you will bring your best energies to bear and will honourably maintain and, if possible, increase the splendid reputation and the grand traditions of the service to which you now belong. Let me commend the natives of India to your special care and protection. I would advise you to lose no time in learning the language and to do all in your power to cultivate the friendship of the people among whom your lot may be cast. You will be well repaid for any trouble you may take in these respects. There are many able natives in the lower grades of your own profession from whom you will obtain valuable assistance if you treat them with kindness and courtesy."—*Lancet*, Aug. 9, 1902.

Secale Cornutum in Puerperal Infection from the Stand-point of the Two Schools of Medicine.

In the *Allgemeine Homöopathische Zeitung* (June 1902) Dr. Mossa quotes Prof. Krönig, the Leipzig gynæcologist, who is strongly opposed to the vaginal douche in confinement cases, and who dis-countenances the use of antiseptic intra-uterine douches in puerperal infection on the grounds that they do not reach the sites of infection and are liable to carry with them renewed infection. On the other hand, he strongly urges the use of *secale cornutum*, in order to cause a contraction in the lymphatic vessels of the myometrium and thus check the further progress of the infection. In conjunction with this

mode of treatment he recommends antistreptococcic serum and injections of unguentum crude.

Dr. Mossa comments that homœopaths have ever looked upon *secale cornutum* as one of the most potent remedies in puerperal septicæmia. "No remedy in our materia medica displays such decided tendencies to blood decomposition as *secale*, and none has a stronger affinity for the uterus. Accordingly, it is just in such conditions as uterine infection in which this remedy is indicated, and on the following symptoms: The abdomen is distended, but not very sensitive; the lochia are offensive and brownish; ulceration about the vagina; high, burning fever, with violent convulsive seizures of chilliness; pulse small and intermitting; anxiety, præcordial pain and vomiting of brownish, offensive material; stools offensive and loose; urine suppressed. The sensorium alternates between quiet apathy and violent delirium." (Bahr.) Dr. Mossa calls attention to the key-note, "Relief from external cold, the opposite to arsenicum." In fact, the true characteristic of this condition is that, while the patient feels cold and the temperature may be subnormal, still she does not want to be covered, and desires all the cool air she can get.—*Hahnemannian Monthly*, Aug., 1902.

The Early Pathological Changes in the Nervous System produced by Rabies.

Anglade and Choireaux (*Prog. Méd.*, May 31st, 1902) state, in a communication made to the Société de Biologie, the results of experiments made to determine the earliest lesions found microscopically in the nervous system as the result of rabies. They conclude (*contra van Gehuchten*) (a) that the lesions found in the nerve cells are not specific and diagnostic as regards rabies, and are not early enough in appearance as compared with lesions of the neuroglia and blood vessels; (b) changes in the glia and blood vessels appear early and in an intense degree, and afford a valuable diagnostic feature; (c) the changes in the neuroglia and in the capillaries are contemporaneous, the endothelium proliferates and the perivascular network of neuroglia becomes infiltrated with "nuclei" intermingled with blood corpuscles which have emigrated from the blood vessels, the corpuscles being less abundant than the neuroglia nuclei above mentioned; (d) these nuclei which pervade the parenchyma of the nerve tissue surround the cell bodies of the nerve cells, and by their presence and the pressure they produce the nerve cells are irritated; (e) the neuroglia cells of the ependyma also proliferate, giving rise to both fibrils and

nuclei, which push the epithelium into elevations which project into the ventricular spaces. The neuroglia fibres and cells also appear to stretch among the groups of nerve cells near the ependyma (as in the floor of the fourth ventricle); (f) many of these changes, say the authors, may be observed in epilepsy, general paralysis, and in some forms of tuberculosis of the nervous system. The virus of rabies, however, produces these changes in a few days, whereas the other diseases take years to bring about similar changes.—*Brit. Med. Jour.*, Aug. 23, 1902.

The Pathology of the Cerebral Neuroglia in Epilepsy.

Anglade, in a recent communication to the Société de Neurologies (*Archiv de Neurolog.*, May, 1902) gives the results obtained by the most recent processes of staining and studying the neuroglia in numerous cases of idiopathic epilepsy, and of Jacksonian convulsions due to cerebral tumours. He finds the nerve cells, and in particular the pyramidal cells of the cortex, intact, even in patients who have died of status epilepticus. The neuroglia elements, on the contrary, never appeared normal, either as individual cells or in their relative proportion as a brain constituent. The neuroglia cells showed increase and proliferation in the form of plaques or patches of hard consistence (sclerosis). These were met with in various parts of the brain substance, and were conspicuous as a cause of hardness in the hippocampal region, the pons, and the bulb. They even affected the spinal cord. In a communication by John Sutcliffe and Sheridan Delépine (*Journ. of Mental Science*, April, 1902) of a patient suffering from idiopathic epilepsy since the age of 22 years, and who died at the age of 38 from epileptic mania, the brain (cerebrum, cerebellum and pons) was of excessive weight, namely, 69 ozs. All parts of the encephalon were enlarged owing to the overgrowth of neuroglia (diffuse hypergliosis), in some regions the growth producing soft gliomatous tumours containing little or no nervous tissue. Microscopical examination showed general increase of the neuroglia, but among the pyramidal cells there were observed some which were clearly degenerated, while the giant cells of Betz appeared larger and more numerous than in the normal brain.—*Brit. Med. Journ.*, Aug. 23, 1902.

Untoward Effects of the Roentgen Rays.

The skin lesions produced by the Roentgen rays have already been reviewed in the *British Medical Journal* (vol. ii, 1900, p. 1598), but

since then a further unpleasant effect has been observed, namely, telangiectases. Several cases of the kind have now been recorded. At the meeting of the Imperial Medical Society of Vienna on May 23rd, attention was called to telangiectases occurring about the face after exposure to the rays for hypertrichosis. Three such cases were mentioned, and, in addition to these, one of the speakers pointed out that these dilated vessels sometimes only made their appearance several months after treatment. Among other instances, a lady was subjected by a layman to the x rays for about half-an-hour on three occasions, at intervals of three or four days. This took place four years and a half before the patient came under medical observation. An intense inflammation developed at the time and for six weeks the patient was unable to take solid food. The affected area was four months getting well. It left her with a disfiguring scar on both lips and beyond the angles of the mouth, with numerous telangiectases scattered about. Other cases of the like kind are known to have occurred. This emphasizes two points. The first is that the use of the Roentgen rays in hirsuties of the face requires much care, and as it is impossible to tell what the effects may be, the untoward symptoms only occurring some time after exposure, their employment in this condition should be given up. Moreover, the results, notwithstanding what has been published, are not reliable and in addition to disfiguring telangiectases, it must be remembered that obstinate ulceration and pigmentation may also occur. In the second place, it is important that the x rays and other forms of electrical energy should, when applied therapeutically, be in the hands and under the supervision of qualified medical men. The recent remarks made in this journal on "The Borderland of Quackery" convey a lesson in this respect. The saying that "Fools rush in where Angels fear to tread" and that "Discretion is the better part of Valour" are truths which are but too often lost sight of, and disastrously. To rush heedlessly into danger stamps the foolish and the ignorant, and is as true of the use of electricity as it is of scouting.—*Brit. Med. Journ.*, Aug. 9, '02.

Perineal Prostatectomy.

Syms (*Journ. of the Amer. Med. Assoc.*, November, 1901), being of opinion that the high mortality rate of prostatectomy is in part owing to the fact that the operations have been too extensive and too complicated, has endeavoured to devise some procedure whereby the enlarged prostate could be removed simply through a median perineal incision. An operation is described in which the prostate is rendered

accessible by a free median incision and brought down into the wound and within reach of the surgeon's finger by a retractor devised for this purpose by the author. The retractor consists of a soft rubber bulb fixed on to the end of a strong rubber tube. The bulb is introduced into the bladder through an opening in the membranous portion of the urethra, and is then distended by water till it attains a diameter of from $2\frac{1}{2}$ to 3 in. The prostate having been brought within reach, is removed by digital enucleation. After this operation the bladder is drained and the perineal wound packed with iodoform gauze. The author asserts that this operation when properly performed is not a formidable one, the hæmorrhage being very slight and the patient suffering comparatively little shock. Reference is made to 6 cases in which the author practised this method. In one, relief was only partial; in the others, it is stated, cure has been complete, the patients having no obstruction to the passage of urine, and being free from cystitis and accumulation of residual urine.—*Brit. Med. Journ.*, Aug. 2, 1902.

Ichthargan in Gonorrhœa.

Although he finds sandal-wood oil excellent in the treatment of gonorrhœa, E. Saalfeld (*Therapeut. Monats.*, March, 1902) does not regard this as a specific, and therefore feels the want of further remedies for this complaint. As a local agent, he is of opinion that ichthargan is the most useful preparation that we possess. It contains about 30 per cent. of metallic silver, and is a thio-hydrocarburo-sulphonate of silver. It is freely soluble in water or glycerine but insoluble in alcohol, ether, and chloroform. He uses it usually in solutions of $\frac{3}{4}$ gr. to $1\frac{1}{2}$ gr. in $6\frac{1}{4}$ oz., and injects it every three hours. At times he uses stronger solutions, up to 5 per cent. In gonorrhœa in the female he applies strips of gauze, steeped in a 1 per cent. solution of ichthargan, and packed into the vagina. B. Goldberg (in the same journal) also reports on ichthargan. He finds that cultures of gonococci are killed in 1 minute by 1 in 500 solutions, in 5 minutes by 1 in 1,000, and in 20 minutes in 1 in 10,000. In actual practice he could report a powerful and permanent bactericidal action of the drug. In very strong solutions (0.2 per cent.) ichthargan causes desquamation. Its astringent properties are marked even in weak solutions, such as 1 in 5,000. He states that if one injects $1\frac{1}{2}$ drachm of a 1 in 3,000 ichthargan solution in a case of acute gonorrhœa, when the urethra is swollen, reddened, discharging pus, and painful, these signs rapidly disappear. He believes that the attacks are short-

ened and that complications are avoided by the use of this preparation. In 50 per cent. of his cases the illness lasted less than four weeks. He appends a few illustrative cases.—*Brit. Med. Journ.*, Aug. 2, 1902.

The Spitting Nuisance.

In a report recently presented to the Sanitary Committee of the City of London by the Medical Officer of Health, Dr Collingridge calls attention, not for the first time, to the danger attending the practice of expectoration in public places. After referring to the placards already exhibited at railway stations and in tramcars and omnibuses urging people to refrain from spitting in these places, he proposes that in order that the community should be further educated on this point the co-operation of certain large employers should be invited. In accordance with his suggestion, a circular memorandum on the subject has been addressed by the Corporation to railway and omnibus companies, post and telegraph offices, to market superintendents, public offices, licensed victuallers, restaurant keepers, police and fire brigade authorities, School Boards and other educational establishments within the city of London. In this circular the co-operation of employers of labour is requested in the endeavour to remedy the dangerous nuisance of public and promiscuous spitting. We hope the Corporation will not relax its praiseworthy efforts to impress on the minds of all persons within the sphere of its jurisdiction the wholesome lesson that spitting in the streets or in places of public resort is a violation of elementary sanitary decency, and an offence not only against individuals but against society. It is largely a mere habit born of ignorance and thoughtlessness, and the force of educated public opinion will be more effectual than the law in suppressing the evil. The education of public opinion on a matter apparently so trivial must of course be a tedious process: but *gutta cavat lapidem non vi, sed sæpe cadendo*, and by instruction from the earliest days of childhood, continued afterwards in the school, the lesson will finally be learnt. In the meantime public authorities can do much to enforce the learning of it. We therefore welcome the action of the Glamorgan County Council as a step in the right direction. It may be remembered that that enlightened body not long ago passed a by-law to the effect that no one should spit on the floor of any public carriage, or of any church, chapel, public hall, waiting-room, schoolroom, theatre, or shop whether admission thereto be obtained upon payment or not; and that any person thus offending

should be liable to a fine not exceeding £5. The by-law was submitted to the Secretary of State for the Home Department, and in due course the Council received the following reply from Sir Kenelm E. Digby: "I am directed by the Secretary of State to say, for the information of the County Council, that, as the proposal is a new one, he has considered it very fully, and has taken expert advice, and that he has arrived at the conclusion that (subject to the consideration of any objections that may be received within the statutory period of forty days after a sealed copy has been submitted to him) he will allow the by-law to come into force if its operation is confined to public carriages, public waiting rooms, public halls, and places of public entertainment. He thinks that the by-law cannot properly be made to apply to churches, chapels, schools, and shops." In accordance with the terms of this letter, amendments were made in the draft by-law, which was then adopted. We congratulate the Glamorgan County Council on having taken the lead in the promotion of a reform greatly needed in the interest of public health, and also, we may add, of the comfort of the more civilized part of the community. —*Brit. Med. Journ.*, Aug. 2, 1902.

On some new Properties of Urea.

Dr. Ramsden, Assistant to the Professor of Physiology, Oxford, said, at the last annual meeting of the British Medical Association, that Limbourg's statement that a saturated solution of urea dissolves fibrin. Löwit's use of urea in preparing artificial blood platelets from serum globulin, Noel Paton's description of a crystalline proteid (serum globulin or hetero-albumose) from human urine, and his own difficulties in obtaining mechanical coagula from albuminous urine, constituted four observations which, taken altogether, led him to suspect that urea must have some potent influence upon proteids. Experiment showed that this was the case. The presence of urea up to saturation prevented the coagulation by heat of all proteid solutions examined. Globulins caseinogen, acid and alkali albumin, copper albuminate, fibrin, and even heat-coagulated proteids swelled up and dissolved in a saturated aqueous solution of pure urea. Dry gelatine was dissolved at room temperature until 40 per cent. went in solution. If the urea be removed by dialysis the gelatine sets solid again.

Coagulable proteids were converted at room temperature into a substance possessing all the properties of alkali- or acid albumin according as the reaction of the original proteid solution was alkaline or acid.

Some change took place in a perfectly neutral solution, that is, in solutions at any degree of neutrality between a marked alkaline reaction at one end of a series and a marked acid reaction at the other end. Strong solutions of egg-white were converted into a stiff jelly at ordinary temperatures, which remained unaltered upon boiling, even when by prolonged dialysis all urea had been removed.

A dead frog placed in saturated urea solution became translucent, and fell to pieces in a few hours. The ligaments, tendons, and connective tissue throughout the body were converted into a clear soft jelly. The muscles, if shaken briskly in water, fell into individual muscle fibres, which retained their structural features, and made admirable histological preparations. The cornea swelled up and became soft; the lens was extruded from the eye on slight pressure. The hæmoglobin of the blood was converted into a body giving the spectrum of alkaline hæmatin, and which on reduction with ammonium sulphide gave the spectrum of hæmochromogen. The skin brushed away with the slightest touch. The nervous tissue became semi-transparent and the nerves readily ruptured. Connective tissues of different animals were differently affected. In a saturated urea solution no putrefaction ever took place. Seeds of mustard and of cress, after soaking five days in 5 per cent. urea, refused to germinate on subsequent transference to water. Two per cent. urea had a marked toxic effect upon tadpoles.

These facts were of interest in connexion with uraemia, as also with the powerfully destructive effects of extravasated urine upon the tissues with which it came in contact (effects which might or might not be due entirely to ammoniacal reaction or to bacterial toxins).

The minimal percentage of urea producing demonstrable effects upon proteid he had not yet accurately determined.

The basic character of urea shown by its combinations with various acids suggested that it was acting as a base, and this view was apparently supported by the formation of alkaline hæmatin. But the fact that even in markedly acid proteid solution urea exerted a specific effect upon the proteid made this explanation improbable.

The very numerous definite crystalline compounds formed by the union of urea and mineral salts suggested that it might have acted by combining with the mineral salts of the proteid and so give the properties of an ash-free proteid. The presence of salts in different quantity had a well-marked influence upon the proteids modified by urea. Another possibility was that the urea formed unstable compounds with proteids. The formation of what was apparently alkali or acid albumin, according to the alkaline or acid reaction of the solution, and the fact that in the presence of urea up to saturation no neutralization precipitates were obtainable in solutions of alkali or acid albumin were in favour of such a view.

After removal of the urea by dialysis such solutions gave typical neutralization precipitates. These various possibilities were being further investigated. The above experiments had been made in entire ignorance of Spiro's more limited observations, to which his attention had recently been called.—*Brit. Med. Journ.*, September 13, 1902.

CLINICAL RECORD.

Foreign.

A CASE OF EXOPHTHALMIC GOITRE.

By WILLIS B. GIFFORD, Attica, N. Y.

In October, 1900, I was called to Buffalo to see Mrs. E., a resident of Cattaraugus county. She had come to Buffalo to consult one of the leading allopathic physicians, and had been here some six weeks. Growing rapidly worse, upon the advice of three different allopaths she was removed to a hospital and a surgeon called, who gave an unfavorable prognosis and advised an operation as the only thing which offered the slightest hope. This being declined, the husband concluded to try homœopathy as a last resort. I found her in a very unpromising condition; pulse 160 and irregular, large arteries at the root of the neck throbbing forcibly, visible pulsation of peripheral arteries, sounds of the heart very intense, eyeballs protruding, enlargement of thyroid, the neck measuring 20 inches, and the whole gland pulsating (anasarca), the œdema extending from toes to knees; urine scanty and slightly albuminous. She complained of forcible throbbing of the arteries, accompanied by unpleasant flushes of heat and perspiration, and a severe pruritus involving the whole body. She was much emaciated, very nervous and restless, and greatly prostrated. She suffered from extreme thirst, calling for water frequently, but drinking little at a time.

Realizing that immediate relief was demanded, I prescribed arsenicum, 6th decimal, this prescription being based upon the general irritability, extreme weakness, emaciation, tremblings, restlessness, frequent jerking during sleep, and the character of thirst and cold sweat on face. The following day I found her less restless, and, upon the whole, in a slightly better condition. I continued the arsenicum for several days, and her general condition seemed much improved. Upon closer inquiry I found she had been heroically dosed with every and all remedies ever prescribed by the old or "scientific" school; digitalis to control the heart's action, strophanthus for the same purpose strychnia to arouse and sustain the vital powers, morphine and bromide of potash to depress them, compound cathartic pills to move the bowels, bismuth, chalk and paregoric to restrain them; iodide of potash and ergot to squeeze the blood out of the thyroid and absorb it, and, pepsin, bismuth and salol to control vomiting caused by this heroic dosing. I think that there were several other remedies given, but the list is too long for my memory—yes, I omitted to mention sulfonal and hyoscyamus to produce

sleep. All of these remedies were given at one time by these "scientific" physicians.

I made a very close study of all the symptoms in this case, and determined to forget the name of the disease, its etiology and pathology—in other words, to find the similar remedy, if possible, and to prescribe, for the patient. Here are the symptoms upon which I based my prescription: Emaciation; weakness after the slightest effort; worse at 4 p.m.; anxiety with depressed mood; easily startled; more or less loss of comprehension and memory; difficulty in lying down on account of throbbing in brain; roaring in the ears; oversensitiveness to noise; no appetite; distention of the stomach after eating even a small quantity; heartburn; frequent desire to urinate, with burning; red, sandy sediment in urine; menses too frequent and long-lasting; cough, with gray, salty expectoration; more or less dyspnoea; nights restless, with anxious dreams; fever and sweat every afternoon, with thirst. Yes, you will say "lycopodium," and lycopodium she received, with the result that she was removed to her home in two weeks, very much improved. This remedy was continued for a period of six weeks. I received daily reports by telephone. At this time the husband thought I had better make her a visit, which I did, and was astonished to be met at the door by her. The enlargement of the thyroid had nearly disappeared; her pulse is 78, the eyes are very much improved, the bulging being scarcely noticeable; in fact there has been a gradual disappearance of all the symptoms above enumerated. Last summer she visited the Pan-American frequently, and her husband said she could tire him out. Up to the present time her general health remains good.—*Hahnemannian Monthly*, August, 1902.

CASES WITH NOTES.

By LAWRENCE M. STANTON, M.D., New York City.

I. There is a cough of well-marked character, which I come across not infrequently, and a remedy that so exactly covers it that I am surprised to find so little mention of it in our literature, or that it is so little emphasized in the *Materia Medica* and has not found its proper place in the *Repertory*.

A dry, teasing, worrying cough, from tickling in some portion of the trachea, to be more or less suppressed if the patient does not talk, but on attempting speech the cough interrupts every word so that the patient scarcely makes himself understood.

The remedy is *Caladium*, and in one case I have in mind the cure

with it in the 30th potency was a very happy one. I had signally failed with remedies, having a cough somewhat similar, such as Am. m., Brom., Act. r., Cup., Merc., and both my patient and I were becoming discouraged.

From my experience with Caladium I am inclined to think that it has an aggravation in its cough after 5 P.M. and during the evening, and a marked amelioration during the night—perhaps on account of no talking.

In Kent's Repertory, Calad, is given under "Cough: Talking agg.," but not under "Inability to speak with the cough," where it likewise and preeminently belongs.

II. The patient with whitlow is very grateful, and the doctor himself is gratified if the intense suffering can be relieved and the disease aborted with a few doses of the homœopathic remedy, and without the use of the knife.

Remedies to be thought of in whitlow and felon having ameliorations from hot applications are Arsen. (probably Anthracinum), Hep., Lach., Nux v., Sil.

Remedies having amelioration from cold applications, Apis, Fluor. ac., Led., Puls.

A case in point was one where the patient was promptly relieved and cured with Fluor. ac. 10m. There was relief from cold applications, and the pointing was on the *dorsum* of a finger of the *left* hand. This location helped to distinguish Fluor. acid from other remedies having amelioration from cold applications.

III. A case of syphilis, with the usual array of secondary symptoms, but with nothing so far to characterize it. How provoking such cases are! Perhaps the very profuseness of usual symptoms masks, in some cases, the finer ones and the constitutional characteristics. I treated this case of syphilis for some time with indifferent success, when the patient developed several ulcers on the mucous surface of both upper and lower lip. These ulcers were irregular in outline, shallow, serpiginous; they were painful, the pain much increased by hot fluid coming in contact with them but relieved by anything cold. Fluor. acid 10m. was given. There was very soon improvement in the ulcers and in the patient's general condition with, now, steady progress towards recovery.

Another symptom this patient had in a very marked degree, one which was covered by and cured by the remedy, was numbness.

Numbness, particularly in the bones of the forearms, the fingers, the lower legs and in the heels. He could hardly hold or use a pen, and his heels were without sensation when putting his weight upon them. There is a great deal of numbness running through Fluoric acid; it may be almost anywhere; numbness in forehead, in occiput, in bones of face near right ear, in upper and lower extremities.

A word in regard to the amelioration from cold of Fluoric acid before going on to the next case. In nearly all complaints of Fluoric acid there is aggravation from heat and amelioration from cold, but it has, exceptionally, a coryza produced by cold water, a toothache made worse by cold drinks, and the "sensation as of cold wind under eyelids, even in a warm room; must tie them up and keep them warm."

IV. Another case of syphilis which came to me for treatment during the secondary manifestation. The chancre had been a very bad one, according to the patient's account, and indeed was far from having healed when I first saw it. There was a profuse, yellow, very offensive discharge, and great itching had been marked from the beginning, annoying the patient exceedingly.

Easy bleeding when dressing the ulcer likewise characterized it. Patient tall, stooping figure. Some of the symptoms of the secondary stage were:

Mind: Very dull, almost to the point of utter inability to think and work connectedly, with much sleepiness.

Sensorium: Frequently has spells of feeling very faint, so that objects turn black before his eyes, or, more correctly, indistinct, and he must brace himself to keep from actually fainting.

Head: Aching in forehead aggravated by motion, light, noise, work; a burning sensation over right eye as if something hot were held at a little distance in front of the head and radiated heat to this spot; much dandruff through the hair, only since syphilis was contracted.

Eyes: Marked photophobia to artificial light in particular.

Pharynx: Sensation of constriction.

Thirst: For large quantities of water in the evening, most marked between six and seven P.M.

Sleep: Dreams and nightmares; emissions.

Skin: Roseolæ well out.

General: Much prostration, feeling worse during forenoon.

This case puzzled me not a little at first, and only after some hours

of careful study did the remedy stand out at all clearly. And how often it happens that when, at last, you see the remedy you see it everywhere and in every symptom, and wonder why you have been so long blind.

It is scarcely short of incredible what Sulphur did for this patient :
 10m. .

A variant of the burning character of the Sulphur pain, exemplified in this case, is interesting and worth special emphasis; *i.e.*, a burning sensation over the right eye as if something hot were held at a little distance in front of the head and radiated heat to this spot. This was a genuine sensation—not a figure or an exaggeration of speech.

Hering gives under neuralgia of right infra-orbital region, under Sulphur, a symptom akin to this, namely, “feels as if the air just in front of her were hot; cannot get a full, easy and satisfactory breath, and F. H. Lutze in his excellent monograph on Facial and Sciatic Neuralgia puts this “secretion, as if the air just in front of her were hot,” in heavy print. I may add that the symptoms speedily disappeared under the remedy.

V. A bad case of gonorrhœa, with the itching pains through the glans penis, at the fossa navicularis, was most decidedly benefited by Caulophyllum 2c; other remedies were required to complete the cure.
 —*Journal of Homœopathics*, May, 1902.

Gleanings from Contemporary Literature.**TOTAL EXTIRPATION OF THE PROSTATE.**

Discussion at the 70th Annual Meeting of the British Medical Association, Section Surgery.

Mr. P. J. Freyer (London), in opening a discussion on the above subject, said : One year ago he had published four cases of total extirpation of the prostate with its capsule by a new suprapubic method. A further series of 10 cases, making 14 in all, had been published only the week before. The whole of the cases had been absolutely satisfactory, save one in which death had occurred on the twenty-fourth day from acute mania. He had now seven more cases to report, with a death in one on the ninth day from sudden syncope after having progressed perfectly favourably up to that date. He referred in detail to each of the cases, and the parts removed from the whole series of 21 cases were presented to the section. For purposes of description he divided the specimens of excised enlarged prostate into three classes : (1) those in which the lateral lobes had separated along the superior commissure only, the prostate coming away entire and leaving the urethra, and probably in most cases the ejaculatory ducts, intact ; (2) those in which the lateral lobes had separated along both their superior and inferior commissures and had been removed separately, leaving the urethra and the ejaculatory ducts uninjured ; and (3) those in which the lobes had not separated along either commissure, the prostate being removed as a whole after the urethra and the ejaculatory ducts had been torn across, and in some instances the prostatic urethra within either partially or entirely removed. It would be found in most cases of this type that the prostate was encircled by a thin girdle of fibrous and muscular tissue, part of the prostatic sheath, so that in these not only had the prostate in its capsule been removed but in addition an actual layer of the sheath had come away.

Professor S. Alexander (New York) wished to draw attention to three points. First, as to what was the true capsule of the prostate ; secondly, as to what parts of the prostate caused obstruction ; and thirdly, as to the important and marked distinction there was between the lateral lobes of the prostate and that part which was to be found below and behind the seminal ducts. The true capsule of the prostate was that which embraced the whole of the prostatic tissue and was derived from the fibrous pelvic fascia. By a series of beautiful photographs of transverse and sagittal sections of the enlarged prostate

he demonstrated very clearly the extent of its sheath, showing that it was wanting on the bladder side. Within this true capsule could be seen the lateral lobes, surrounded by a special envelope of their own. As to what parts of the prostate caused obstruction it was essential to recognise that the enlargement was entirely in that part above the urethra, and never in the portion in front of the seminal ducts. The urethra was thus always depressed and the larger the prostate the greater the depression. The anatomical distinction of that portion of the enlarged prostate lying below and behind the seminal ducts from that lying above the urethra was important, for this former part never caused obstruction, the so-called middle lobe being in reality always an outgrowth of a lateral lobe, but it was that part of the prostate liable to carcinoma. He was a strong advocate of the perineal route for removal of the prostate.

Professor Parker Syme (New York) said that he had in his earlier operations approached the prostate by the suprapubic route, but he had come to the conclusion from anatomical considerations that the prostate was rather a perineal organ than one connected with the urinary bladder and that the only proper route by which to reach it was through the perineum. This was the direct, rational, and anatomical course and left the bladder entirely uninjured. He was sure that the surgeon should be guided by clinical aspects rather than by mere rectal examination. Residual urine and cystitis were certain to place the patient in jeopardy. Whatever might be the amount and form of the enlargement of the prostate, he believed that every enlarged prostate could be removed through the perineum. He demonstrated a special instrument which he had devised to render easy traction upon the prostate during its removal. It consisted of a rubber tube to the further end of which was attached a collapsible rubber bulb, rather of an umbrella shape. The apparatus was introduced into the bladder through the urethra and the terminal bulb was then inflated, thus producing a soft but very efficient retractor. It further tended to arrest hæmorrhage during the progress of the enucleation. He had operated on 21 cases. All the patients except one had cystitis previously to operation, two had calculi, and in one case there were 54 ounces of residual urine and the patient was delirious with a temperature of 104° F. He had lost no patient and all were completely relieved with no permanent incontinence of urine.

Mr. Reginald Harrison (London) based his remarks on seven specimens of enlarged prostate which had been removed by the suprapubic route. In five the results were entirely satisfactory, the patients

recovering voluntary power over micturition. In the other two instances the results were not so good. In one a cicatricial contraction occurred in the neighbourhood of the deep urethra and in the other carcinoma of the prostate supervened. He had been much struck years ago by the amount of relief that many persons who were out for stone obtained by the so-called accidental removal of portions of an enlarged prostate.

Sir William Macewen (Glasgow) stated that after he had seen the large portion of the prostate which had been removed and exhibited by McGill of Leeds he had practised the suprapubic method, but in one instance because he had made a perineal incision for drainage, and had also noticed the benefit of the partial removal of the prostate in lithotomy, he began to make use of the perineal route. He not infrequently first performed perineal section, draining the bladder, and subsequently shelled out the lateral lobes by the same route, these not uncommonly shrinking after the section and before the enucleation.

Mr. Jordan Lloyd (Birmingham) thought that the discussion had cleared up several doubtful points. Prostates could be removed and the series of specimens shown by Mr. Freyer demonstrated this absolutely. The aim of the surgeon should be to arrive at an operation with the lowest mortality, shortest convalescence, and best after-results.

Dr. W. E. Hadden (Portadown) and Dr. G. B. Ferguson (Cheltenham) having made a few remarks, Mr. Freyer replied, congratulating the section on the eminently practical tone of the discussion and particularly on the excellent discourse of Professor Alexander and Professor Syms. He would like again to emphasise his belief in the existence of two separate capsules to the prostate, so graphically described by Sir Henry Thompson many years ago as the result of 70 dissections. He had no monopoly in prostatectomy, but he considered that partial removal had had its day and that his method was the best of the complete operation, as evidenced by what was removed and the entirely satisfactory after-results.—*Lancet*, Aug. 16, 1902.

OBSERVATIONS ON THE VALUE OF THE MEDICATED
GALVANIC CURRENT ON VARIOUS GROWTHS.

BY M. O. TERRY, M.D., Utica, N. Y.

Brigadier-General and Ex-Surgeon-General, S. N. Y.

In the July issue of the *Medical Times* for 1900, there is an article which came from my pen on the resolving effects of the medicated galvanic current on various growths. The treatment suggested was the result of years of observation, although there was no extensive clinical report supporting the article, yet the character of the difficulties treated was of such importance to the general practitioner, the electrician, as well as the surgeon, that I have thought it advisable to reimpress it upon the medical profession by bringing it before you in a different way.

The growths referred to include enlargements of the cervical glands, fibroids, subinvolution of the uterus and goiter. All of these conditions are surgical in the sense that the surgeon is called upon to operate for the relief of these morbid processes. The operations in some instances are dangerous and in others an unsightly scar remains.

A trial of electricity, as will be described, involves no danger to the patient as the growths are slow in forming. It requires no great skill; the method of treatment is simple; the element of patience only being necessary.

Cervical enlargements will disappear more rapidly than the other conditions. In the case reported where there were 28 cervical enlargements only three remained after three months' treatment. A goitrous condition disappears more slowly, it taking from six months to two years to bring about the desired result. This is also true in regard to fibroids and subinvolution of the uterus.

Much has been written of late in respect to prostatic hypertrophy and quite radical methods have been instituted for the relief of the same. There can be no reason why the galvanic treatment in such cases would not meet with the same satisfaction as in the others mentioned.

As to the method of application it will depend upon the growth to be treated. The electrodes are medicated in every instance by the use of chloride of ammonia and iodine. No particular attention is given as to the quantity of these remedies, but a drachm of the former with 10 to 15 drops of the latter is sufficiently definite. The strength of the current may be from 50 to 1,000 milliamperes. The patient is usually able to state the strength of current agreeable. It

can be increased or diminished during a treatment, which may be given for 15 to 20 minutes.

In treating enlargements of the neck the positive pole is placed posterior to the same with the negative upon the affected parts. The patient can frequently taste the iodine as the current passes.

In the treatment of fibroids of the uterus, where there is a marked hemorrhagic tendency, the negative pole is placed upon the spine or abdomen; generally the latter. The positive pole is applied by using a uterine electrode into the uterus, the part passing through the vagina being isolated by slipping over the electrode a piece of rubber tubing. Should hemorrhages be severe on beginning the treatment it may be given for two or three days in succession; then every five to seven days.

It has been before mentioned that a fibroid of nine inches has been reduced to four and one of six to three within a few months, and within the past five months a case has been treated by me where the hemorrhages had been persistent for weeks. They have long since ceased and the uterus which was six inches in length, reaching up to the umbilicus, is scarcely above its normal position now. The patient who was an invalid, unable to work, expresses herself as feeling better than she has for months, and is able to resume her normal occupation.

It will be noted that the positive pole is used when hemorrhages are present, but in case of subinvolution the reverse is the proper treatment, namely the negative to be placed in the uterus. Later on in the treatment continued resolution will be induced by using both poles upon the abdomen, pressed on either side of the tumor.

If prostatic difficulties were to be treated the positive pole should be placed upon the spine, the negative upon the perineum. I shall certainly try this treatment at an early period in case I should fail in the use of chloride of ammonium, which I have used for years with marked success in such difficulties, a report of which will be found in the transactions of the State Society. The doses given in such cases are from eight to ten grains three times a day.

In conclusion I am quite sure that the practitioners, surgeons or electricians who will undertake this method of treatment with perseverance will be as highly gratified with the results which follow as have attended my observations for the last 15 years or more.—*North American Journal of Homoeopathy*, July, 1902.

SIGNS OF THE TIMES.

By C. KNOX SHAW, M.R.C.S.,

Before proceeding to the ordinary business of the day, I crave your kind indulgence whilst I refer, briefly and most inadequately, to the irreparable loss British Homœopathy, and I may rightly add world-wide Homœopathy, have sustained in the death of one of the Members of our Council, Dr. Richard Hughes. His kindly face, genial manner, and earnest words will be sadly missed to-day : and this Congress, and many to come, will never be quite the same to those who knew Hughes well. He was one of our most regular attendants, his experience was of immense service to the meetings, and his contributions to the discussions were distinguished by their learning, and the courteous and agreeable manner of their delivery. His earnestness of purpose and his indefatigable industry in his efforts to present to the profession an accurate knowledge of the pathogenetic action of drugs, have placed him rightly amongst the masters of homœopathy ; and for all time the name of Hughes will be honorably associated with a pure *Materia Medica*. Twenty-one years ago he occupied this chair, in this city ; and had not the hand of destiny cut his thread of life we should have had the privilege of hearing the first paper of the day from his lips. We may speak of him in the words of Pope, "Unblamed through life, lamented in thy end."

Now let me heartily welcome you all to the Congress of 1902 : and although we might almost be considered middle-aged, this being the fifty-second year of our existence, I confidently anticipate those manifestations of strenuous vitality which seem perennially associated with these gatherings.

The honour which was conferred upon me last year at Liverpool, by electing me President of this Congress, has given me food for reflection. Such an honour occurs but once in a life-time and a responsibility is thereby attached to the trust, which makes the recipient fearful lest he should be unable to discharge his duties in a fitting manner. Here we are meeting in support of, and to advance a principle in therapeutics admitted and practised by many hundreds of medical men throughout the world, but which, alas ! is still not generally recognised by the bulk of the medical profession as a valuable aid in the selection of the remedy and as a mode of cure : a principle needing for its perfect practice years of patient and industrious study. Yet with the full knowledge of all this, remembering the distinguished therapeutists and physicians who have previously occupied this chair, you, the members of the Homœopathic Congress, have deliberately chosen me, a craftsman of the surgical art, to succeed men who were and many happily still are among the most able exponents of the science of homœopathic therapeutics. To what must I ascribe this distinction ; why has this honour been thrust upon me ? Is this a sign of the times ? another sign of the broadening of our policy ; a widening of our view of medical practice. I trust it is so ; I take it to be so. My

earliest convictions of the truth of homœopathy having been confirmed by experience, I have since drifted away from therapeutics proper into the domain of practical surgery, where the art of prescribing becomes less and less necessary, and the fascinations of the subject so enthralling and absorbing that there is but little time left for the study of our special branch of therapeutics in a way to enable me to present to you in any adequate manner an address from the purely therapeutic standpoint. I am quite unable to emulate the masterly addresses you have listened to in recent years, or to discuss the relation of modern investigations in physics or bacteriology to the law of similars. There is a wild field for observation here, and I trust and believe that the newly launched scheme for a teaching and research school will aid enquirers in this direction. My investigations for many years past have been, not into the action of drugs and the pathology of drug diseases, but into the methods and technique of the art of surgery and ophthalmology. And at this moment it is the relation of surgery to the practice of the homœopathy of to-day that concerns me most. The opinion is sometimes still expressed, that homœopathy and surgery have no relationship, and that a patient consulting a homœopathic physician, or presenting himself for treatment at a homœopathic hospital will avoid the necessity of an operation. I should not be in the position I am to-day if I did not believe that in the majority of cases a well considered homœopathic prescription will do more for the patient than a remedy given on any other lines. But I feel at the same time that we must not have too blind a faith in the all powerful curative effects of drugs. There are admittedly limitations to the curative actions of drugs, and we must be ready to recognise them and be prepared to turn to other agencies when we have realised that we have to deal with a condition beyond the reach of drug action. This position has been forced upon us by the efflux of time and our growth of knowledge. The Hahnemannian standpoint has changed *pari passu* with the century's advance. It is not only important to us as homœopaths, but to the profession at large, that an increasing interest has become manifest as to the position of surgery in the medical practice of to-day. We are finding out the "external obstacles to cure" spoken of by Hahnemann, and perfecting ourselves in their Removal. Much of the procedure of the present time might well be classified under the head of the removal of the mechanical hindrances to cure. Consider for a moment what is being done in the surgery of the stomach in cases of stenosis, due to cicatrisation from ulcers, or other causes; and in cases of chronic gastritis with dilatation, where delayed contents of the stomach lead to changes forming an obstacle to the cure. Here a well-timed pyloro-plasty, or gastro-jejunostomy, as the condition requires, will do more in a few weeks to assist subsequent drug action, than months of the most patient and careful dieting and prescribing. The same might be said for some of the operations on the biliary tracts, undertaken for either the primary or secondary effects of biliary calculi. Those who have seen a good many operations on the appendix cæci will realize how often the pathological condition found

is a perfect obstacle to the cure. One could refer in the same manner to the destructive changes excited in a kidney by the presence of a calculus, or an abnormal ureter. In fact, there is hardly any organ of the human body where we do not occasionally meet with conditions where the physician and the surgeon must act conjointly, if the best interests of the patient are to be considered. Surgery and medicine go hand in hand now in certain diseases of the brain and spinal cord ; in those of the lungs and pleura ; and even in some conditions of the heart and pericardium.

It is important for a physician to recognise when drugging should cease and the more mechanical means of surgery be employed. It is absolutely impossible for us to draw any comparison between the relation of medicine and surgery in the days of Hahnemann and the position of the two to-day. Then the operative mortality was appalling, the period of convalescence, if one got so far as that, exhausting and lengthy, and the number of diseases suitable for the operative treatment of that period limited. Chloroform, which deprives the patient of all the immediate horror of an operation, was then unknown, sepsis was rampant, and it is not to be wondered at that there was a natural repugnance to the surgical knife. So advanced a thinker as Hahnemann would have been one of the first to admit the altered condition of affairs, and to recognise the present position of surgery in the treatment of many so-called medical diseases.

I referred a few moments ago to the lessening need for the surgeon to prescribe, but I ought somewhat to explain that position, lest I should be misunderstood. There are, and always will be, a great number of surgical diseases that need just as much care in the selection of the appropriate drug as any medical case. In general practice these cases come under the daily observation of the practitioner, and are prescribed for as any other illness ; but when one develops into a more purely operating practice, the post-operative treatment of the case is reduced to a minimum ; there is nothing in fact to prescribe for. In our surgical wards a complete aseptic operation needs only one dressing, is unattended with any inflammatory reaction, and after the first twenty-four hours the patient suffers but little. For the distress of that period, consequent mostly upon the anæsthetic, belladonna is our sheet anchor, and our prescription frequently never gets beyond that remedy. It seems to me but yesterday (though it is actually about sixteen years ago) that I was seriously told that surgery was not needed at the London Homœopathic Hospital, and it is not so very many years ago that there was no surgeon on the staff of that hospital. This crippled the development of homœopathy, our means of cure were narrowed, and we were neglecting methods absolutely essential for the cure of some forms of disease. As soon as surgery was admitted as a co-partner in the work of the hospital, progress was marked and success achieved. Whether it was *post hoc* or *propter hoc*, the revival which has brought us to our present enviable position to-day, dates from the development of surgery in the hospital, and its official recognition in the homœopathic school. I look upon this as a significant sign of the times, not in the least

lessening our faith in the principles to which we adhere, but as showing that whilst holding fast to that which is good of our own, we can accept and assimilate the good we can learn from others. Naturally I am proud of the progress surgery has made in the medical world, and in our own school; still I am quite willing to admit and even to emphasize that caution is necessary. There is another side to this question, one we should do well to recognise and consider for a moment. Modern methods have robbed operations of nearly all their terrors and distress; we can almost venture to guarantee a result. There are few things that cannot be undertaken now-a-days, and undertaken with a fair prospect of immediate success. But is the patient always the better for the operation? though life is spared, is the position of the patient any more satisfactory? I sometimes wonder whether this is so, when one reads accounts of some of the operations undertaken, especially on the continent. It is, I fear, only too true that there are fashions in operations as in drugs and drinks, and many are apt to run to excess in this as in other different, but less far-reaching directions. As a body of convinced therapeutists, it is not necessary that we should follow like a flock of sheep every newly-exploited cure either by operation or drug. We can afford to hold to and abide by what we have, and are not compelled by the unsatisfying nature of our therapeutic resources to be always searching for the philosopher's stone. In the desire to be thought original, and to be the first in the field, many an operation is advocated, or drug extolled, which a little longer experience would relegate to the limbo of the unproved and ill-digested opinions. Temperament largely controls the actions of our daily life, and I am certain it directs, unwittingly perhaps, the judgment of the surgeon. Possibly I possess a disposition of excessive caution; I know I have a keen desire to examine attentively the probable effects and consequences of operations with a view to the avoidance of unnecessary dangers. This temperament perhaps, leads me to fear lest our success should make us prone to rely too much upon an operation as a method of cure, or as a means of diagnosis. There is always a certain risk attending every operation, and an untoward result may follow, when least expected, in any one of these exploratory procedures. It must be so when we have so many varying human conditions to deal with. Operations are never to be lightly entered upon. The physician, learning their comparative freedom from danger, sometimes, I fear, suggests one without appreciating that there is a certain danger, or without realizing the conditions essential for a successful issue, or the care needed in the preparation of the patient and his surroundings—conditions which are immediately available to the ordinary hospital patient, but which press heavily, financially at least, upon the ordinary middle-class householder. But this matter only indirectly and incidentally affects us as homœopaths, though it seems to me worthy of note owing to the growth of surgical practice in our hospitals.

The development of our hospitals, with their complement of fully equipped special departments, has advanced and strengthened immensely the position of homœopathy in this country, and is a most gratifying sign of

life and activity in our school. But a powerfully entrenched and fortified position, though valuable as a means of resisting attack or invasion, never leads to conquest unless the besieged are prepared for a sally. For the past ten years, or more, we have been strengthening our position and extending our earthworks, but there are signs that we are now ready to take the field. Since we met last year in Liverpool, the British Homœopathic Association has been started under very favourable auspices, and this Congress may well wish it success and prosperity in its propaganda. In this country, with its very conservative educational interests, it is chimerical to hope to establish a fully equipped medical school in our present position, but that need in no way prevent us from attempting such educational work as is indicated in the programme of the new association. That work will, I take it, be mainly of two kinds: first the expounding by means of lectures and literature our science of therapeutics; and secondly providing the means for investigation and research into all matters concerning the development and education of that science. We must remember that we are the only school that has held an opinion of the science of therapeutics for a century. We claim that there is a therapeutic science and as long as the old school disbelieve in the science of therapeutics, so long must therapeutics be more or less at a standstill; and so long, too, must there be a vital difference between the two schools of medicine. A fusion can scarcely take place whilst the principle of the mode of selection of the remedy, based on the law of similars, is unacknowledged and untaught. The two schools have approached one another in many ways, and though some, amongst whom I would rank myself, would gladly welcome a closer binding together into the one great brotherhood of medicine, there still remains the need for a separate organisation, a state of things rendered imperative owing to the antagonistic and uncompromising attitude of so many of the old school. By means of literature and lectures we can place an up-to-date exposition of the principles and claims of homœopathy before the medical profession, especially before its younger members. There is among many of these younger men a strong feeling as to the unsatisfactory condition of therapeutic science, a condition which hampers them considerably in their daily practice. This position is openly acknowledged by some of the teachers in the medical schools, but it does not press upon them, as consultants, in the same manner as it does upon those whose practice largely consists in combating the many minor ills flesh is heir to. This unrest is one of the signs of the times. We have something to offer, and it will be one of the duties of the British Homœopathic Association to proffer with no stinting hand the knowledge we possess, and to assist in penetrating the darkness with which ignorance and prejudice cloud the mind. The more experimental evidence we can bring to bear upon the points at issue between the homœopathic and allopathic schools the better; the more correct and exhaustive the recording of the pathogenetic action of drugs, the greater their value as remedial agents; new drugs require to be proved; old drugs re-proved. This is a class of work that can be most satisfactorily undertaken by the new Association. We

have had it carried on for some "time past on independent lines, but the more elaborate experiments require properly fitted laboratories for their scientific elucidation ; and it is to be hoped that before very long the Association will have provided the means of them to be amply fitted and suitably officered. The papers that have been lately read before the British Homœopathic society by Dr. Percy Wilde, our Vice-President of to-day, and by Dr. McLachlan, are important signs of the times. Here we have able physicists and chemists proving that Hahnemann's much derided theory of drug dynamization gives expression to definite physical laws. While Hahnemann claimed that the curative properties of drugs could be increased by their dilution, the modern physicist demonstrates that the chemical activity of matter increases with dilution, and shows such dilution is absolutely necessary to set free the energy of most elements. Thus carbon which is regarded as medicinally inert, becomes a very active chemical body when its energy is set free by the act of dilution. In these days, to deride the homœopathic practitioner because he uses dilutions and triturations of, so-called, inert substances is to proclaim ignorance of modern science. An actual laboratory demonstration of this fact is a matter of serious concern to us in strengthening the scientific reasoning of the laws of similars. It gives scientific support to evidence gained from clinical experience. It will be one of the duties of the new Association to provide means for the proper carrying on of these experiments, and for the public demonstration of them when completed. It is well known that the itinerant straw not unfrequently indicates the direction of the wind ; hence I was much interested in the early part of this year to see that at one of the medical societies connected with one of the largest of our medical schools, homœopathy had been discussed, naturally enough, as a medical heresy. The paper, however, discussed homœopathy in a much fairer manner than one is usually accustomed to see in medical controversies on the subject ; and if this in any way represents the views of the rising generation of medical men, it augurs well for a broader and more catholic spirit in dealing with what the essayist called "reasoned systems of medical theory and practice." It is both curious and sad, and yet instructive, to see how the more fantastic and mystic writings of the later years of Hahnemann's life so often first excite the sceptical quality of an enquirer into homœopathy, and by their somewhat extravagant conception distract his attention from the great fundamental truths expounded during his maturer years. To the rigid Hahnemannian it may savour of heresy, but I fully believe that if Hahnemann had ceased writing about 1830, the commencement of his period of senility, homœopathy would to-day be more generally accepted as a method of cure. Our young critic attacked the arrangement of the symptoms in a schema form as an "indiscriminate record" of symptoms, but he does not seem to have been aware of the *Cyclopædia of Drug Pathogenesis*, that monument of Hughes' labour, which presents the symptoms under the name of the individual prover and in the order in which they were developed. Our critic also condemned homœo-

pathy because it had no pathology, and that its successful application depends upon symptomatology alone. But the objector seems to have overlooked the fact that symptoms are but an outward manifestation of some underlying pathological condition : as Clifford Allbutt puts it, "they do not occur in disorderly jumbles, but tend to form groups of certain degrees of constancy varying with various organisms." Most of our provings of drugs were undertaken long before any correct pathological interpretation could be placed upon their symptomatological manifestations. He would be a poor diagnostician who based his diagnosis, either of his disease or of his drug, upon symptomatology alone, or pathology alone. These infinite varieties of cause and effect are interdependent on one another. But this interesting phase of the subject, the relationship of homœopathy to pathology, has been ably handled at previous Congresses, by the late Dr. Yeldham in 1880, and by Dr. Galley Blackley in 1894, and incidentally by many others. Criticism has been directed in the past by Members of the Congress to the fact that these Congresses, instituted for the development and discussion of purely homœopathic subjects, have more often taken into consideration matters pertaining to medicine and surgery in general, to the exclusion of material connected with our special branch of therapeutics. This year the Council has endeavoured to provide papers of purely homœopathic interests, and has made arrangements that ample time shall be given to each subject. I trust that this Congress will in every way be as complete a success as those held in the past have been ; and that the excellence of the papers to come will make up in some measure for the poverty of my personal efforts. When the Congress Secretary asked me for the title of this address I was at once placed in a difficult position. Was it possible that out of this "disorderly jumble" of words I could find "a group of any certain degree of constancy"? After some consideration it appeared to me that certain facts which I had observed, and the thoughts they excited in my mind, showed that within recent years considerable changes had taken place in the homœopathic world ; that these movements within our body were signs of a re-awakening, of renewed activity, which, if read aright, and accepted, would leave us in a stronger and better position. I am no "Sibyl, old, bow-bent with crooked age, that far events full wisely could presage," nor have I ventured to consult the Delphic oracle, but if I read the signs of the times aright, we may go forward in our work of advancing therapeutic knowledge with hope and confidence, feeling sure that modern thought and investigation are all tending to prove the truth of the principle for which we have been fighting so long. But it is no time for rest and leisure ; there is work, and real hard work to be done. To those I see before me, and to others of our co-workers whom my voice does not reach to-day, I would like to give this message. "Look up and not down ; look forward and not back ; look out and not in ; and lend a hand."—*Monthly Homœopathic Review*, August 1, 1902. "

SELDEN HAINES TALCOTT.

It is seldom that the Homœopathic profession has to mourn the loss of so many of its distinguished members as during the past six weeks. First Hughes, then Helmuth and now Talcott. Dr. Talcott was a big man—big bodied, big hearted and big brained. His splendid physique enabled him to perform most arduous and continued labor; his cordiality won for him hosts of friends, and his eminent ability made him one of the foremost men of the day. From the time of the commencement of his services at Middletown, a quarter of a century ago, he dedicated his entire powers to the work before him. He labored for the unfortunates committed to his care; for the upbuilding of the institution of which he was superintendent; and for the advancement of Homœopathic therapeutics. In and for all these things he was zealous, untiring and sagacious. From humble beginning in 1877 the asylum over which he was called to preside has grown to be the great Middletown State Homœopathic Hospital with its 1,500 patients, and a reputation that extends over the civilized world. The methods of treatment for mental diseases instituted by Dr. Talcott upset old theories and revolutionized systems. The results that he attained by his new and advanced methods in sanitation, environment, physical treatment, diet, and the strict application of the law of similars were startling. They made Talcott and Middletown famous and the commanding position then gained he never lost. It is a source of great gratification to his friends that he was enabled to be present at the dinner given in his honor at the Waldorf-Astoria on May 14, 1902. He deeply appreciated the tribute of his friends and often referred to it during his last illness. Dr. Talcott was a great superintendent. His services to Homœopathy cannot be overestimated and his death is a severe loss.

Dr. Talcott was a son of the late Jonathan Talcott, of Rome, and was born on the Talcott homestead there July 7, 1842. He was graduated from the old Rome Academy and in 1864 enlisted in Company K, Fifteenth New York Volunteers, and served till the close of the war. He then returned to Hamilton College, which he had entered just before his enlistment, and was graduated from there in 1869. In 1872 he was graduated from the New York Homœopathic Medical College. The same year he began practice in Waterville. In 1875 he was appointed chief of staff of the Homœopathic Charity Hospital on Ward's Island, New York.

In 1877 Dr. Talcott received the appointment from the Board of Trustees as superintendent of the Middletown State Homœopathic Hospital.

Few physicians in the entire country had a larger practice or were more frequently called into consultation than Dr. Talcott.

He was Professor of Nervous and Mental Diseases of the New York Homœopathic College, and for four years he lectured on mental and nervous diseases at the Hahnemann Medical College at Philadelphia. Among the medical societies with which he was connected or had been connected may be mentioned the Orange County Homœopathic Medical Society, of which he was president in 1875; the New York County Homœopathic Medical Society, the New York State Homœopathic Medical Society, of which he had been president; the American Institute of Homœopathy, of which he had been president; the Northern Homœopathic Medical Society of New York and Pennsylvania, and he was an honorary member of the Massachusetts Homœopathic Medical Society. He was also an associate member of the Royal Society of Medicine in Belgium. To the International Penal Association held at Christiania, Norway, in 1891, he was sent as a delegate by the New York Medical Legal Society of New York city, of which he was a member. In 1879 he was appointed a member of the State Board of Medical Examiners by the Regents of the University of New York.

Dr. Talcott had spent much time in travel in the interest of his profes-

sion. In 1883, 1888 and 1891 he travelled through the British Isles, France, Switzerland, Italy, Holland, Belgium, Prussia, Austria, Denmark, Sweden and Norway. On each visit he made a study of the asylum management in Scandinavia, Great Britain and the German states. He visited from forty to fifty asylums and in 1891 made a report giving the results of knowledge acquired.

Dr. Talcott had written much on medical subjects which was published in pamphlet form and in medical journals.

His last book was entitled "Medical Diseases and Their Modern Treatment."—*North American Journal of Homœopathy*, July, 1902.

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DRUG ATTENUATION.

III.

(Continued from Vol. xxi, No. 9, p. 361.)

It will be seen, from the account of the methods of drug attenuation other than Hahnemann's that were adopted by some of his followers, that they are unreliable so far as definiteness and precision are concerned.

Thus to take the Korsakoff dry method. Suppose we take a globule of the 30th and place it in the middle or at the bottom of a mass of unmedicated globules, consisting of 100 or 1000. Who can say by what time will the whole mass be infected or impregnated with the medicinal emanation from the medicated globule? And when they are so infected who can say by what number of the dilution or potentization are these globules to be called? And who can say that each of them has been equally saturated? With such uncertainty how can successive dilutions or potentizations be made? What would be the scientific value of these dilutions unless it be to show that we can cure any disease with any potency; which, if established, would do away with the necessity of making high dilutions at all.

As regards the Jenichen potencies they were scarcely higher than the 30th. Whatever virtue there might be in the number of shakes it must have a limit, the comminution of the particles

in a solution cannot go on ad infinitum with the increase in the number of shakes. Therefore when Jenichen counted one degree of increased potency for every ten shakes, he must have egregiously deluded himself, and those who believed in his potencies must have been the victims of a delusion if not of imposture. The reported cures with his high potencies, if genuine, were indeed cures with dilutions not higher than Hahnemann's 30th.

Of the high potencies of Dr. Samuel Swan, of New York, by the method of fluxion or bottle washing, it was shown that the arithmetic, on which the calculation of the number of the potencies was made, was at fault. Dr. Joseph T. O'Connor, Professor of Nervous Diseases in the New York Homœopathic Medical College and Hospital, thus speaks of Dr. Swan's potencies. "His studies showed him that to make the 1000th potency by hand would require $333\frac{1}{3}$ cubic inches of the menstruum altogether, and he constructed an arrangement by which a water meter would register the amount of menstruum (in this case water) passing as a very fine stream into a vial-shaped receptacle containing the original drop of the drug to be thus potentized. When the meter showed that $333\frac{1}{3}$ cubic inches of water had thus been employed, he marked the residual liquid M, meaning 1000th potency. It is quite evident that if this potentization had been done by hand and the 1000th potency obtained (according to the Hahnemannian method) that a drop of this potency, added to 99 drops of the menstruum and succussed, there would be obtained 1001st potency, and so on; till a second thousand was secured. The maker in question, however, took a drop of this 1000th and passing in a new $333\frac{1}{3}$ c. i. he did not call the result a 2000th, but multiplied his first figure, 1000, by his second one and dubbed the potency thus obtained MM meaning millionth. For years he could not be made to see the error in his arithmetic."

The correctness of even the first designation M of this particular fluxion method was questioned by such a believer of high potencies as the late Dr. S. P. Burdick. Experiments were instituted with dilutions made by the Hahnemannian method of the deeply coloring matter *Eosine* and it was found that under the spectroscope the absorption bands disappeared about the 4th or 5th dilution, whereas they were found to exist in the

1000th dilution of the fluxion method ; hence this latter dilution could not be higher than the ordinary 4th, and the so-called MM dilution than the 8th.

Such being the fallacy of the fluxion method in the production and numbering of the dilutions, homœopathic physicians, who were believers of high potencies, such as Dr. Bœricke, of Philadelphia, Dr. Burdick, and Dr. Deschere, of New York, and Dr. Skinner, of Liverpool, made machines which "actually use at each step of the process 99 drops of the menstruum. When the containing vessel is thus loaded it tips over by the added weight and is emptied of all except one drop ; this is then treated to 99 more drops of the menstruum and again unloaded. A recording apparatus tells the number of times the unloading has occurred, and so the number of the potency is thus registered. It is claimed that as the menstruum flows in a forcible jet, the admixture thus resulting equals that produced by hand succussion." Dr. O'Connor, from whom this quotation is made, continues : "The writer has some experience with the 30th potency of such make and found it effective, but with a higher potency (55,000) of a drug with whose action he is well acquainted, he was unable to get results, although he had used it in several cases where it seemed well indicated. It would appear that a real dilution to such a high degree contains none of the elements of the original drug." To this it might be objected that it is not in every case that any dilution is effective. But if this be so with such large range of dilutions, then the choice of the dilution is rendered infinitely more difficult than when the limit was the 30th, which is a serious drawback in the practice of homœopathy.

Unless we intend to make child's play of homœopathy, we must abandon these uncertain and unreliable methods of making dilutions of our drugs. As Dr. Hughes has well said, "they are a chapter in the history of homœopathy which had to be glanced at, but we will trust that it has been only an episode, and will go back to the practice of Hahnemann's method as he left it." Yes, if we want to make dilutions higher than Hahnemann's 30th, we must strictly use his method and no other. Now the question is how far ought we to go ? We can go any far we like. But ought we to be restrained by theoretical considerations of the size limit of atoms ?

If Hahnemann, who as a chemist knew that gold, silver, platinum, &c., were not ordinarily soluble in water and alcohol, had not gone beyond the 3rd or 4th centesimal triturations of these metals, he could not have made further liquid dilutions from them; but he did go beyond and succeeded in showing that they became soluble after the 3rd trituration, and did get, as we do get, undoubted therapeutic effects from the higher dilutions up to the 30th thus prepared. By thus boldly pushing forward he has actually opened up a new field for chemistry, if not a new field of Science. It is true that the physiological test of the presence of matter is not always a very safe test, and requires to be applied with the utmost caution. Its fallacies are in proportion to its delicacy. But it is a test not to be neglected, inasmuch as it is often the only test where living organisms are concerned. Where facts are undoubtedly established by this test applied with all the rigor and exactitude of scientific requirements, they ought not to be rejected. If other theories clash with these facts, the theories and not the facts ought to be looked upon with suspicion.

If chemical analysis has not been able to detect the presence of the metals beyond the 3rd centesimal, the microscope beyond the 14th, Spectrum analysis beyond the 8th or 10th, what is the legitimate inference from these facts? What but that the spectrum analysis is more delicate than ordinary chemical analysis, and that the microscope is more delicate than either? And the probability is that there may be other tests more delicate than the most delicate yet discovered.

The atomic theory of Dalton accepted as true till recently by all chemists, had put a stop on physical grounds to the infinite divisibility of matter possible on mathematical considerations. If matter consists of discrete atoms, any quantity of any matter must have a limited number of these atoms however high that number may be. And the latest calculation of the magnitude of atoms by Lord Kelvin and Clerk Maxwell gives between a hundred and ten thousand billions as the number which can exist in a cubic space of one thousandth of an inch. Based on this calculation it has been shown by Drs. Wesselhoeft and Sherman that "the molecules of a liquid drug would become exhausted at about the eleventh centesimal dilution, and at the

twelfth would cease to be even probably present." Now if we get undoubted efficacy from dilutions beyond the 12th centesimal, the legitimate inference would be not that there is no drug matter in these dilutions, but that the vaunted calculations of the magnitudes of atoms must be wrong, and that the atomic theory itself will have to be modified. And what has been the fact recently? The theory has been modified. The theory of discontinuous, that is, discrete atoms has been found to be untenable, and scientists are veering towards Boscovich's and Faraday's conceptions of atoms as centres of force, force that extends practically to infinity all round these centres, in other words, to continuous atoms if such an expression is allowable.

Are we to go on making dilutions unrestrained, without end? Is there to be no limit? Hahnemann's regulation dose was the 30th centesimal, though as our readers are aware he approvingly spoke of higher and still higher dilutions. Thus in the second note to § 287 of the *Organon* (5th Edition): "The higher we carry the attenuation accompanied by dynamization (by two succussion strokes), with so much the more rapid and penetrating action does the preparation seem to affect the vital force and to alter the health with but slight diminution of strength even when this operation is carried very far,—in place of, as is usual (and generally sufficient) to X, when it is carried up to XX, L, C, and higher; only that the action always appears to last a shorter time." The symbols, as interpreted by Dr. Dudgeon, meaning the 60th, the 150th, and the 300th. Again writing of Korsakoff's dilutions, the 150th, the 1000th, and the 1500th, he says: "All this is in strict accordance with my own experiments, though I have not carried them so far; one of them I may only allude to, namely, that once having prepared a dynamized attenuation of sulphur up to XXX (90th dilution), I administered a drop of it on sugar to an aged unmarried lady, who was subject to rare epileptic attacks (one every 9, 12, 14 months), and within an hour afterwards she had an epileptic fit, and since then she has remained quite free from them." It is a pity that Hahnemann should not have said, since how long?

Hahnemann was thus responsible directly with the high dilution craze, though it must be admitted that he himself protested against such dilutions being carried on without end and aim.

Thus with regard to the Korsakoff dilutions after speaking approvingly of them, he adds: "However, it must be borne in mind, that the chief use of these experiments was to demonstrate how high medicinal attenuations might be potentized without their action on man's state of health being reduced to nothing, and for this these experiments are invaluable; but for the homœopathic treatment of patients it is advisable, in preparing all kinds of medicines, not to go higher than the decillionth attenuation and dynamization (X), in order that homœopathic physicians may be able to assure themselves of uniform results in their practice." In the same strain he had written in September 1829 to Dr. Schreter, of Lemberg: "I do not approve of your dynamizing the medicines higher—(as for instance to XII and XX [i.e. 36th and 60th]). By laying it down as a rule, that all homœopathic remedies be diluted and dynamized up to X (30th), we have a uniform mode of procedure in the treatment of all homœopaths, and when they describe a cure we can repeat it, as they and we operate with the same tools. In one word, we would do well to go forward uninterruptedly in the beaten path. Then our enemies will not be able to reproach us with having nothing fixed—no normal standard."

Hahnemann's reason for not going beyond the 30th and fixing this as the standard dilution was thus only to secure uniformity in homœopathic practice. But while he thus wrote and preached he forgot, as his own practice must have shown him, that the treatment of all cases of disease with the same standard dilution was impracticable and impossible. He himself had effected genuine cures with all sorts of dilutions and even with the crude drug, upon which facts he had founded the law of cure and shown the necessity of drug attenuation, and after all this to teach that all diseases not only may but can be cured with a fixed dilution was, in our humble opinion, pure dogmatism. That we are justified in thus characterizing the master's latest teaching is proved by the fact that his own pocket case, which he used up to his death, contained dilutions from the 3rd to the 30th, so that he did not stick to his own regulation dilution. We are therefore constrained to say that while he was exceedingly careful as a practitioner, not going beyond his previous experience, he was in the matter of dose wreckless as a teacher, often form-

ing, as Dr. Dudgeon has remarked, his general deductions from insufficient data.

(*To be continued.*)

THE MONTHLY HOMŒOPATHIC REVIEW ON THE STORY OF OUR CONVERSION TO HOMŒOPATHY.

[Our excellent London Contemporary, the *Monthly Homœopathic Review*, has done us the honor of reprinting entire, in its October number, the "story of my conversion to Homœopathy," by the Editor in our July number, with the following prefatory remarks for which we tender our heart-felt thanks.—EDITOR, *Cal. J. Med.*]

"We have much pleasure in reprinting from the July number of the *Calcutta Journal of Medicine* the following extremely interesting paper with the above title by its distinguished editor, Dr. Mahendra Lal Sircar. The mode of conversion of an allopath to homœopathy is always interesting and instructive, but we have seldom read any such account that is so fascinating as this is, and which shows the strong character of the man and his noble, fearless courage in standing up for his convictions of the truth, amidst circumstances which would have frightened a weaker man into smothering his convictions. Dr. Sircar was not only the pioneer homœopathic physician in Calcutta, but has been at the head of his profession ever since, devoting all his spare time to the advancement of the cause he has so much at heart, and has, in fact, made homœopathy in India what it now is. Long may he be spared to carry on his noble work. The story of his conversion has a curious and remarkable likeness to that of the late Dr. Horner, of Hull.

"Dr. Horner was President of the Provincial Medical and Surgical Association (now the British Medical Association) in 1850, when it met in Hull, where Dr. Horner practised as a physician, and was Senior Physician to the Hull General Infirmary. In the following year, 1851, the Association met at Brighton, and there and then Dr. Horner was elected Perpetual Vice-president, and he had charge of the committee that prepared the notorious anti-homœopathic resolutions. As some of our younger colleagues may not remember the gist of those resolu-

tions, we give them here: That 'homœopathy is so utterly opposed to science and common-sense, as well as so completely at variance with the experience of the medical profession, that it ought to be in no way or degree practised or countenanced by any regularly educated medical practitioner. That it is derogatory to the honor of members of this Association to hold any kind of professional intercourse with homœopathic practitioners. That there are three classes of practitioners who ought not to be members of this Association, namely: (1) Real homœopathic practitioners; (2) Those who practice homœopathy in combination with other systems of treatment; (3) Those who, under various pretences, meet in consultation or hold professional intercourse with those who practice homœopathy.' These resolutions have never been rescinded. In Hull at that time the members of the medical profession used to meet once a fortnight for coffee and discussion of papers, etc. After the Brighton meeting just referred to, Dr. Horner, as having taken a leading part in the passing of the resolutions against homœopathy, and being the Senior Physician to the Infirmary and the leading physician in Hull, was asked to read a paper against homœopathy. This he readily consented to do. But like an honest man as he was, it occurred to him that he really knew nothing about homœopathy, and that it would be only honourable and wise to make himself acquainted with the subject on which he had promised to write. He therefore enquired at the chemist's for books, and was referred by him to Dr. Atkin, the homœopathic practitioner in Hull. To make a long story short, the result of Dr. Horner's investigations, first by reading and then by carefully and systematically testing it in practice, was to make him a convert to the new system. He told his colleagues and friends that if he read his paper it must be in support of homœopathy, and not against it. The paper was in consequence never read. In 1852 or 1853 he was deprived of the Perpetual Vice-presidency of the British Medical Association, and soon after his colleagues in Hull got up an agitation to have him ousted from his post as Senior Physician to the Infirmary, in which they succeeded, after he had served the Infirmary for twenty years." "

REVIEW.

A History of Hindu Chemistry. From the Earliest Times to the Middle of the Sixteenth Century A. D., with Sanskrit Texts, Variants, Translation, and Illustrations. By Prafulla Chandra Ray, D. Sc., Professor of Chemistry, Presidency College, Calcutta. Vol. I. Prithwis Chandra Ray, 9, College Square, Calcutta, 1902.

It is a rule with all journalists to notice only those works which are sent to them for purposes of review. If, in the present instance, we have deviated from the rule, it is because we have allowed our patriotism to override our editorial dignity. Authorship, such as of the kind we have deemed it our duty to notice, authorship in the direction of historical research as to the state of a science in ancient and mediæval India, which has made true progress only in modern times, authorship guided by a full knowledge of that science,—such authorship is not only rare but so unique in our country, that omission to notice it would have been a dereliction of duty.

It is a noteworthy sign of the times that we, Indians, who have been stigmatized as lovers of hyperbole, and absolutely wanting in the historic sense, have taken to the study of history, especially of the history of our forefathers, of their civilisation, their arts and sciences. It is by the constant taking of stock that one becomes aware of one's deficiencies and the lines along which they may be made good. And history is nothing but taking stock of a nation's assets and liabilities in all departments of worldly existence. It is therefore not only as a matter of duty but with sincere delight that we hail the appearance of the first volume of *A History of Hindu Chemistry* by so skillful and zealous a chemist as Prof. Prafulla Chandra Ray, D.Sc., of the Presidency College, Calcutta. For some years past he has been labouring to collect materials for his history, some of which he has presented to us in the volume before us.

Till now Western scholars have been working in the field of Indian history, and most of what we know of our ancestors are the fruits of their indefatigable industry. But however learned an oriental scholar of the West may be, however careful he

may be in weighing facts, sifting them with impartial judgment and drawing inferences as to the progress of civilisation made by the ancient Aryans of India, he is apt to fall into errors as to the exact place they occupied in the history of the world, the co-ordination and interdependence upon one another of the various organs of Hindu society, and the rise and decline of particular branches of their knowledge. It is far better to allow able members of the society itself to plead their own cause. And thus it is that the theories of Messrs Haas and Lévi as to the development of Hindu medicine and its allied branches from Greek influence have been ably refuted by Prof. Ray. Very truly has he said that "it is curious to reflect that the upholders of the 'Greek Culture' are often found ready, though unconsciously, to twist and torture facts and conclusions to serve their own purpose, and reserve to themselves the benefit of doubt as regards date; but whenever the priority of the Hindus is unquestionable, an appeal is made to the theory of common origin and independent parallelism of growth."

We cannot pretend to show here that this is the case, or to describe the evidence recorded in the volume under notice, but the following conclusion referring to the influence of "Greek culture" in the domain of Hindu medicine must be regarded as a statement of the present position of the discussion of the subject:—"After all, we are afraid, too much has been made of the resemblance between the Greek and the Hindu theory and practice of medicine. The analogy is more superficial than real, and does not seem to bear a close examination. The Hindu system is based upon the three humors of the air (?), the bile, and the phlegm, whilst that of the Greek is founded upon four humors, namely the blood, the bile, the water, and the phlegm—a cardinal point of difference." Indeed it is with the greatest surprise that we have learnt that the European critics tried to maintain a position which seems from its very nature to be untenable. As far as we are aware, no trace of Greek culture can be found in any portion of Hindu medicine. Our physicians, even at the present day of English culture, have stuck to what their ancestors bequeathed to them. The so called Greek culture could not have been more potent a factor than the present English culture. Yet it is still the old Atri and Charaka and Susruta and their

subsequent followers that guide our native physicians in the treatment of diseases and the preparation of necessary drugs.

This apathy on the part of the Indians to incorporate into their sciences what may have been discovered in other lands by other people has been, we believe, at least one of the causes of stagnation of Hindu civilisation. A nation, like an individual, cannot always remain juvenile. It must grow old, and in course of time must possess a store of effete matter accumulated in weak parts for want of healthy exercise.

The present history of Hindu chemistry will, we hope, show to our countrymen how far behindhand we are in the science of chemistry. It was certainly very creditable to the ancient Indians that they could forge and hammer the wrought-iron pillar close to the Kutub near Delhi which weighs ten tons, and is "larger than any that have been forged even in Europe up to a very late date, and not frequently even now. It is almost equally startling to find that, after an exposure to wind and rain for fourteen centuries, it is unruined, and the capital and inscription are as clear and as sharp now as when put up fourteen centuries ago." Thus wrote Fergusson in his *History of Indian and Eastern Architecture*. But nothing noticeable has been added to the old knowledge during the last eight hundred years or so. The recollection of past glories cannot make a nation fit for active and healthy existence. Nations, like individuals are judged by what they are, and not by what their forefathers were in times gone by.

*Prof. Ray has a chapter on the decline of the scientific spirit of our ancestors. According to him the cause of this decline was the rigid establishment of the caste system after the re-assertion of Brahmanic supremacy over Buddhism, and the looking down upon the arts as beneath the dignity of a Brahmin, which led to the restriction of their cultivation to the lowest and necessarily then the least intellectual castes. "The arts being thus relegated to the low castes and the profession made hereditary, a certain degree of fineness, delicacy and dexterity in manipulation," says Prof. Ray, "was no doubt secured but this was done at a terrible cost. The intellectual portion of the community being thus withdrawn from active participation in the arts, the *how and why* of phenomena—the co-ordination of cause and effect—were lost

sight of—the spirit of enquiry gradually died out among a nation naturally prone to speculation and metaphysical subtleties and India for once bade adieu to experimental and inductive sciences. Her soil was rendered morally unfit for the birth of a Boyle, a Des Cartes or a Newton, and her very name was expunged from the map of the scientific world.”

Hindu society was a living organism when it made progress in the arts and sciences. We meet with a remarkable passage pointed out by Prof. Ray in Vāgbhata—the celebrated author of *Ashtāṅgahridaya*—where he says :

वाते पित्ते क्लेष्मण्यनौ च पथं
तैलं सर्पिर्मांसिकं च क्रमेण ।
एतद् ब्रह्मा नापते ब्रह्मजो वा
का निर्मन्त्रे (?) वक्त्रभेदोक्तिरिति ॥
अग्निधाम्न्यात् किंवा इत्यर्थेति विविच्यते ॥

“Oil is good for the nervous, clarified butter for the bilious, and honey for the phlegmatic. This is true whether it is said by Brahmā or his son. Are these qualities due to any power possessed by the speaker, or are they peculiar to the things themselves?” Similarly long anterior to the time of Vāgbhata, we read in the *Māhābhārata* (*Sāntiparva*, chap. 218) that “as inference and tradition are based upon direct observation, so are they corrected by it. Where there is no direct evidence, there is no room for traditionary theory. Without direct evidence theory is merely an idle conjecture.” It was possible for the Hindus to make progress in the arts and sciences when such a scientific spirit prevailed. They could then be the pioneers of knowledge to the West. Hindu medicine was dispensed at the courts of the Kaliphs of Bagdad by Hindu physicians residing there ; Hindu works were eagerly read by Arabian scholars and translated into their language. And who will tell us how far the influence of the Arabic translations permeated the literature of the West ? The tide of events has, however, turned in the opposite direction, and it would be folly not to take advantage of this current.

We have dwelt upon this side of the question presented in the work before us in the hope that the lesson so forcibly put by the author may not be lost sight of. Now we propose to enter

into certain details of the work. Prof. Ray has given a succinct account of the growth and development of Hindu chemistry from the Vedic period down to the Tantric. We would, however, like to see a detailed account of each important element, and its compounds, both organic and inorganic, a discussion of the chemistry of their preparation, and the gradual improvement each succeeding author made in it. A general account of such interesting topics can hardly satisfy a critical reader. We would therefore suggest that in the second volume there should be an attempt to trace the source of each of the principal compounds, pointing out, if possible, the how and when it received modification, and its present position. The author has followed this plan with respect to a few of the compounds known in Hindu medicine, and we would like to see this extended to the rest. It will certainly be a laborious task to analyse the principal ingredients of the important preparations. But this seems to our mind the only way of presenting a connected history of chemistry, instead of adding notes here and there, however interesting they may be. Indeed, the business of a historian of chemistry should be that of a chemist, applying the modern methods of analysis to the unfolding of the old, and showing how far and wherein the old chemistry laboured to approach the new. We therefore regret that the author has rather been hasty over the description of the few chemical compounds mentioned in the volume under notice, while he has devoted many pages to the description of the practice of the Calcutta gold-workers in colouring and finishing their gold articles. However interesting the account may be to the historian of technical arts, it seems to be out of place in a work professing to be a history of chemistry from the earliest times. Moreover, it is a big quotation from one who has evidently fallen into errors in the explanation of the chemistry of the process as has been noted by Prof. Ray himself. By the way, it is about eighty years that a Frenchman is said to have invented the art of dry-colouring in Europe. Previously, the English gold-workers were "bright-workers" only; and it would be interesting to know whether the process had its origin in India. At any rate, we should have expected a chemical explanation of the red colour imparted to gold by sulphur which is not used by European gold-workers.

We have hardly enough space to examine critically how our author identifies the metallic ores mentioned in works of Hindu medicine. Every one knows what a jumble is sometimes made by our native physicians in choosing the ingredients of their medicines, and in the absence of chemical analysis two or more different substances are indicated by one and the same name. We would therefore repeat the suggestion that it would be advisable to reproduce in cases of doubt the methods described in the Sanskrit works than to quote the nature of the products from authors who had evidently less experience and fewer opportunities of handling them than Prof. Ray has.

We have no doubt, the present volume will be gratefully accepted by students of the history of chemistry. A perusal of its contents will enable them to compare the alchemy of the East with that of the West. It is a valuable addition to the history of Science, filling a gap in that history as regards one of its most important branches and the most intellectual nation of antiquity. We congratulate Prof. Ray upon the successful beginning he has made, and earnestly wish that he will continue his researches which are sure to be attended with greater success.

Diseases and Therapeutics of the Skin. By J. Henry Allen, M.D., Professor of Skin and Venereal Diseases, Hering Medical College, Chicago, Ill. Boericke & Tafel, Philadelphia, 1902.

This is a good, practical, handy book on a most important class of diseases, those of an organ which enclosing and protecting the other organs constitutes the outer man. "This outer man," as has been beautifully said by another author (Dr. M. E. Douglass) on the same subject, "is the one in whom we all take greater or lesser pride; the one that receives the greatest amount of attention; the one that more pains are taken to beautify and adorn than all the others; the one in which any imperfection is soonest noticed, and for which relief is most promptly sought. The physician who can soonest remove the disfiguring blemishes, heal diseased conditions, smooth and beautify the skin is the one whose praises are the loudest proclaimed by the gratified patient. In no other department of medical science is a reputation so readily made as in the department of dermatology, for the reason that patients can speedily judge whether the physician is likely to do them good or harm."

Most of the diseases of this important organ, "the outer man," were deemed incurable, and indeed were rendered incurable, by irrational local treatment, till the light of homœopathy broke forth on the medical firmament and revealed their true nature as having, in the majority of instances, a root in the constitution and in all instances, as having the power to injuriously influence and derange the whole constitution unless properly treated, that is, attacked at their origin, which homœopathy only can enable the physician to do.

From the dawn of homœopathy, homœopathic physicians from Hahnemann downwards have recognized this beneficial healing power of the system over diseases of the skin; and latterly the necessity of systematic treatises has been felt. Singularly enough the best treatises have been given to the public by the firm of Messrs. Boericke & Tafel, of the United States; the first, if we mistake not, is *A Treatise on Diseases of the Skin* by Dr. S. Lilienthal, in 1876; the second, *Skin Diseases, their Description, Etiology, Diagnosis, and Treatment according to the Law of Similars* by Dr. M. E. Douglass, in 1900; and the last, the work under notice.

These books have each its own merits. As a first attempt, Lilienthal's treatise is a remarkably good book, treating pretty fully in detail not only diseases proper of the skin, but even those diseases of which the skin eruption is but an accident, namely, the acute exanthematous or zymotic diseases, though the author himself had said in the beginning that he would omit them as they belong to a different branch of pathology. In addition to descriptions and the indications for their treatment, "recording only the results of clinical experience as guides to the selection of remedies," he added at the end a Repertory, in alphabetical order, of remedies giving their pathogenetic symptoms as observed by provers.

Dr. Douglass's work is more advanced and up-to date. The introductory chapters on the anatomy of the skin, on general observations and on rules for studying its diseases, on the classification of its elementary lesions, and on the etiology and pathology of these diseases, are very valuable. The descriptions of the diseases and the indications for treatment are very clear and full, fuller even than in Lilienthal. Some of the diseases such as *eczema rubrum*, *herpes zoster*, *impetigo contagiosa*, *syphiloderma pustulosum*, *vittiligo*, *scabies*, *alopecia areata*, are illustrated by beautiful colored plates. The work, however, is wanting in a repertory, so useful to the busy practitioner.

The work under notice is the smallest of the three. We will allow the author to speak of its characteristics as set forth in the Preface wherein he says: "In the preparation of this little work we have endeavoured to present this very difficult subject

in as clear and concise a manner as possible, leaving out all unnecessary detail that might in any way confuse or burden the busy practitioner or student of dermatology. It is our wish to make it one of practical use to the busy practitioner as well as a text-book for the student who wishes to receive a practical knowledge of this subject, avoiding as much as possible the unnecessary task of reading voluminous works written by noted specialists upon the subject. The history, pathology and pathological anatomy has been dealt with briefly, partially owing to the present uncertain knowledge on these subjects, and partially to the differences of opinion held by the homœopathic physician and our colleague of the regular school." But while he has thus abridged the size of his book, he assures us—"We also have endeavoured to make the therapeutic part as strong as possible, limited as we are by lack of space in a work of this size, hoping later on to materially strengthen it by a repertory wholly confined to the subject."

We are glad to bear our testimony to the last merit indicated above. The therapeutical portion of the work with the repertory is really strong and very helpful. We wish we could felicitate the author on the clearness and precision of his language as we can honestly do of his knowledge of his subject. When our eyes fell upon the omission of a preposition in the very first line of the dedication we thought, it was through the proof-reader's carelessness. But the laxity of language of the preface and of the use of the royal or editorial *We*, of which our readers have some idea from the extract we have given above, could not be the fault of the proof-reader. We could cite numerous instances of such faulty diction from the body of the work. We would content ourselves with one or two. Thus he speaks of *Stratum Corium*, instead of *Stratum Corneum*, as the first layer of the epidermis. In speaking of chemical irritation as a secondary cause of skin diseases he says,—“The chemical irritants that may come in contact with the skin in innumerable ways are the *effects* of the sun's rays producing dermatitis,” &c., and includes among these irritants, “mosquitoes, bees, insect bites of all kinds!” Under the X-ray in the Repertory we have the following sentence: “The c. m., one powder daily, brought back in four days a suppressed foot-sweat, fissures and bleeding of the fingers in a cook. Cured in a few days with a powder morning and evening.” What was this powder? It could not be the c. m. It must have been something else which the author should have stated. His abbreviations of the temperaments are singular and obscure. What are the temperaments which are indicated by bil-ment-motor, bil-motive, sang-vit-lymph, sang-mot-vital, bil-motor-temp.? We trust that in the 2nd edition the author would be more careful about the way in which he expresses himself.

EDITOR'S NOTES.

Suprarenal Diabetes.

Blum (*Arch. f. d. ges. Physiol.*, 1902) states that the suprarenal bodies contain a substance which when introduced into the circulation evokes diabetes. Very small quantities of suprarenal substance suffice for this ; it results from the injection of the fifth part of the watery extract of one lamb's suprarenal into a rabbit ; that of a whole organ causes glycosuria to the extent of over 2 per cent. ; that of two over 5 per cent. of sugar in the urine. The glycosuria if well-marked lasts about three days, and is produced by the suprarenal extract of the same species of animal as the subject as well as by that of other species. The author believes that the active principle in this respect is identical with that which raises the blood-pressure ; he was able to obtain experimental glycosuria by the use of both the pharmaceutical extracts known as suprarenin and adrenalin. Neither the occurrence nor the extent of the glycosuria was influenced by alterations in the diet. The injections increased the sugar content of the blood, and caused glycosuria in fasting animals ; in the latter case after the glycosuria had ceased it could be reinduced by a further injection of suprarenal extract after the administration of olive oil. The author holds this for a proof of the formation of carbohydrate from fat. He considers that the glycosuria from suprarenal extract injection is not closely allied to that from puncture of the fourth ventricle.—*Brit. Med. Journ.*, Sept. 6, 1902.

The Alleged Medicinal Properties of the Husk of the Coffee Bean.

About a year ago Dr. L. Restrepo of Medellin, the capital of the department of Antioquia, in the Republic of Colombia, South America, convinced himself that the husk of the coffee bean was of great utility in the treatment of several diseases and that in malaria it sometimes succeeded where quinine had failed. Having regard, on the one hand, to the immense importance of such a discovery, if it were verified, and, on the other hand, to the remoteness of the Republic of Colombia from the acknowledged centres of medical activity, some credit is, we think, due to the British Legation in Bogota the capital of the country, for having forwarded copious details of Dr. Restrepo's observations to the proper authorities in London—of course, without anything of the nature of official endorsement. Dr. Restrepo at first used an infusion made with 45 grammes of

crushed coffee (in the husk) and 400 grammes (about 14 fluid ounces) of water. This was boiled for 5 minutes, strained, and taken in one day in six doses. With this medicine he successfully treated five patients of whom three suffered respectively from intermittent malarial fever, chronic malarial fever, and pernicious fever, and two suffered from enteric colic or chronic dysentery of malarial origin. Before taking this infusion these patients "had all been declared fatal cases, given up by well-known doctors of good reputation." He afterwards made the infusion with 30 grammes of coffee husk alone in place of 45 grammes of crushed coffee in the husk, the other details of preparation and the dose being as before. With this he says that he "treated hundreds of cases, not one patient has died, and a cure has resulted in every instance."—*Lancet*, Oct. 4, 1902.

The Presence of Spermatozoa in Hydrocele Fluid.

Examination of the cells contained in pathological fluids (cytology) is a means of investigation only recently introduced into clinical medicine and one much more extensively employed in France than in this country. In the *Bulletin de la Société Médicale des Hôpitaux de Lyon* for June, M. F. Barjon and M. A. Cade have published a curious fact which their investigations into the cytology of hydrocele fluid has brought to light—the frequent presence of spermatozoa. As very few spermatozoa may be present careful search with an immersion objective should be made. Out of eight cases of ordinary (idiopathic) hydrocele spermatozoa were found in five, whereas they were not found in four cases of symptomatic hydrocele, due to orchitis, tuberculosis, and syphilis. In three of the cases of ordinary hydrocele puncture had previously been performed. In none of these were spermatozoa found, but they were found in the remaining five cases in which puncture had not been performed. In these latter cases the hydrocele was carefully incised under anaesthesia, and the spermatozoa could not have been introduced from a wound of the testicle or epididymis. Spermatozoa were not found in the other three cases, probably because they were removed at the previous operations. The spermatozoa found were dead and showed histological changes indicative of prolonged sojourn in the hydrocele fluid. Sometimes the tail was shortened, truncated, or even absent; sometimes the head was deformed. Frequently endothelial cells had acted as phagocytes on the spermatozoa, as on the red blood corpuscles. The presence of the spermatozoa has an important bearing on the difficult question of the pathogenesis of hydrocele. The old hypothesis, originated by Mor-

gagni and adopted by Geuzmer and Volkmann, that hydrocele originates in the accidental rupture of little cysts of the testicle or epididymis into the tunica vaginalis is supported. Further, Panas and other surgeons have found slight lesions on the surface of the testicle and epididymis, which, perhaps, were the result of cicatrization of ruptured cysts.—*Lancet*, Oct. 4, 1902. .

Climatic Bubo.

From time to time for some years past cases have been described in tropical climates in which a chronic enlargement of the inguinal glands appeared without any obvious trauma of the skin of the lower extremities or any proof of the presence of venereal disease. The condition is nearly always accompanied by an elevated temperature and in some of the cases the inflammation of the glands goes on to suppuration. The term "climatic bubo" has been provisionally applied to this disease by Schenke and will suffice for the present. As the condition occurs in tropical climates it is only natural that malaria has been credited with an influence on its etiology, for where malaria is rife any unusual morbid manifestation is liable to be attributed to it. The latest contribution to the literature of the subject is a valuable paper by Mr. Arnold Caddy, F.R.C.S. Eng., in the July number of the *Indian Medical Gazette*. In the article he reviews the bibliography of the disease and shows that the descriptions, though relating to cases in India, Hong-Kong, Sumatra, Madagascar, East Africa, and the West Indies, all agree in the essential points. The irregular temperature simulates malaria, but quinine appears to be ineffective; some of the cases have been looked upon as examples of plague, but the two diseases agree only in the enlargement of the glands. With our present knowledge of the bacteriology of plague the two conditions are readily distinguishable. Mr. Caddy's paper contains accounts of 12 cases under his own care and these give a very clear idea of the disease. He considers that it is the result, firstly, of an anæmia and a general lowering of health produced by a tropical climate, especially when associated with hard work, and secondly, of infection through minute cutaneous lesions, such as those of prickly heat or bites by insects. In two of his cases in which a bacteriological examination was made staphylococci were found. Mr. Caddy considers that even when suppuration does not occur removal of the affected gland is generally required, for in no other way is so rapid a return to health attained. The exact nature of pestis minor has long been keenly discussed and there appears to

be a great probability that many of the cases included under that title really belong to the disease under consideration.—*Lancet*, Oct. 11, '02.

The Causes and Symptoms of Poisoning by Illuminating Gas.

An important discussion on the subject of poisoning by illuminating gas is published in the *Medical News* of New York of August 23rd last. In the opening paper Dr. James C. Bayley of New York, who for many years has devoted himself to the study of "gas" and ventilation, said that the chief cause of poisoning was the gradual leakage of gas which occurred from the gas mains and which permeated into the floors and atmosphere of cellars and basement dwelling rooms. Ordinary illuminating coal gas contained about 7 per cent. of carbon monoxide, which was the most poisonous constituent of gas. The more recently manufactured "water gas" contained from 30 to 45 per cent. of carbon monoxide mixed with certain naphtha materials to give illuminating power, and this was the gas supplied by the companies for illuminating purposes to all the cities of New York State. At the present time the only warning which revealed leakage was the powerful odour of the mixture. The normal average leakage of gas in the cities of New York State was great, a moderate estimate putting it at 225,000 cubic feet of gas per annum for each mile of main. In London, says Dr. Bayley, the amount of leakage from the mains was estimated by the Board of Underwriters at 1748 millions of cubic feet per annum. Many cases of anæmia and general weakness in New York attributed to disease or to overwork were, adds Dr. Bayley, traceable to slow poisoning by gas. Dr. Bayley also points out that dangerous elements in sewer-air are the carbon monoxide and naphtha vapours which escape into sewers from the gas mains. An account of the cerebral symptoms of poisoning by gas was published in these columns two years ago. The danger of such poisoning by gas, concludes Dr. Bayley, is a very real one in many houses. In the discussion following the above paper, Dr. Samuel Lloyd described the symptoms observed by him in a female school teacher who was living in a room where leakage of gas took place. She suffered from severe headache, saw "flashes of light" before her eyes, had an intensely tired feeling, and became very anæmic. Other people who had lived in the same house and had suffered similarly were told that it was due to malaria, but the true cause was ascertained, and on removal from the poisonous atmosphere the patient rapidly recovered. A second case was cited by Dr. Lloyd of a male patient who developed signs of anæmia with albuminuria

and enlargement of the spleen, the illness being due to the same cause. In this case also rapid recovery followed change of residence. Mr. Percy Stewart, Commissioner of Public Buildings in New York said that public buildings, such as theatres, churches, and meeting-houses, required particular attention to obviate the dangers of leakage of gas.—*Lancet*, Oct. 11, 1902. .

The Cause of M. Zola's Death.

From the accounts of the tragic accident by which M. Zola lost his life it seems almost certain that he was poisoned by carbon monoxide, and an examination by M. Girard of samples of blood taken from the body, as well as from Madame Zola and a dog which was present in the room, furnished conclusive evidence. The essential facts from the medical point of view, so far as they have been ascertained, may be briefly stated as follows: M. Zola and his wife returned to their house in Paris on Sunday night, and a fire of "patent fuel" had been lit in their bedroom during the day in order to warm the room. The servant noticed that the chimney did not draw, and it appears to have been obstructed by falling mortar. After opening the window he left the fire to go out. It had evidently continued to smoulder all night, however, as the grate was still hot next morning. On retiring to bed M. Zola closed the window. About 9-30 next morning the servant could obtain no answer on knocking, and broke in the door. M. Zola was found lying dead on the floor, and his wife was unconscious on the bed. Under suitable treatment she recovered consciousness during the day, and was able to give some account of what had happened. She woke up during the night feeling unwell, and was able to go to the dressing room, though she felt very faint. On returning she spoke to her husband, who also seemed unwell. Some time later she was aware that her husband had risen from bed and fallen on the floor. She tried to call for assistance, but lost consciousness, and remembered no more. In cases of carbon monoxide poisoning the immediate cause of death is often some muscular effort. The heart, deprived of its normal oxygen supply through the blood, is unable to respond to the slightly increased demands upon it, and a condition of acute asphyxia supervenes. It was probably the slight exertion of rising from bed which was the immediate cause of M. Zola's death. The congestion observed in the face and neck after death indicated that death was sudden. The gases from the fire would certainly have no tendency to accumulate near the floor, and thus affect him more than his wife, as was suggested. The propor-

tion of carbon monoxide in the air of the room doubtless continued to increase for several hours after the window was closed, but was probably never greater than about 0.3 per cent. The symptoms produced in poisoning by carbon monoxide depend on the extent to which the hæmoglobin of the blood is saturated with carbon monoxide; and this in its turn depends at first on the duration of the exposure, as the absorption is very slow. After a time, however, with a small percentage of the gas in the air, no further absorption occurs, as the mass influence of the atmospheric oxygen presents further combination. This point appears to have been reached in the cases of the inmates of the room, and Madame Zola escaped although she had breathed the poisonous air longer than her husband. Two dogs which were in the room also escaped. Smouldering fuel of any kind will give off a mixture of carbon monoxide and carbon dioxide. Accidents such as that by which M. Zola lost his life are, however, very rare in this country, as coal fires, even when smouldering, give off so much smoke, or fumes containing sulphurous and sulphuric acid, that any defect in a chimney is at once noticed.—*Brit. Med. Journ.*, Oct. 4, 1902.

Vesical Calculus in Women.

Mirabeau (*Centrab. f. Gynäk.*, No. 22, 1902) reports 8 cases of vesical calculus in women. Stone in the bladder is much more frequent in the female, and more readily diagnosed than was the case not many years ago, partly because gynecological operations are so freely performed in these days, so that sutures not rarely make their way into the bladder, and partly owing to the use of the cystoscope. In none of his cases were the symptoms highly characteristic; in only two did the history alone lead to the suspicion of calculus. Pains, nearly always present, were such as are common in diseases of the genital tract, but frequent desire to make water, turbid or bloody urine, and colicky hypogastric pains are frequent. The cystoscope was used in every case. In one instance the calculus was at first overlooked, and, indeed, was not detected until the instrument had been used repeatedly, as it lay in a diverticulum. Yet it was as big as a hazel nut. In a second case a large calculus lay across the neck of the bladder, which was firmly contracted on it; this stone was at first mistaken for a tumour. In the remaining cases the calculi were speedily detected through the cystoscope. They were removed by three methods. Some were extracted through the urethra, by aid of the cystoscope. This method was most suited for small concretions.

under the size of a hazel nut, for stones in diverticula, and for phosphatic masses around silk ligatures, which often hang from the vesical walls. Lithotripsy is suited for large, soft, phosphatic calculi; the cystoscope is a good guide in such cases. For big, hard, uric acid calculi, with acid urine, and no infection of the bladder, colpo-cystotomy is indicated. This operation is excellent. A median incision is made in the anterior vaginal wall, then the vesical wall is laid free as much as possible, and a vertical incision cut through it. After removal of the stone Mirabeau closes the wound in the vesical walls transversely, to avoid tension; care is taken when the wound is made not to wound either the ureters or the sphincter vesicae. Lastly the vaginal incision is closed. Lithotripsy is not a satisfactory or easy operation, owing to the irregular shape and laxity of the female bladder. Mirabeau considers that suprapubic lithotomy is unnecessary in women, and that dilatation of the urethra beyond the calibre of the finger is dangerous, as liable to cause permanent incontinence of urine.—*Brit. Med. Journ.*, Sept. 6, 1902.

Low Temperature and Vitality.

Though absolute zero never has been reached and, as Professor Dewar says, probably never will be reached, yet the successful production of excessively low temperatures has yielded results which are of the greatest importance. The cold so far produced has been sufficiently intense to involve the solidification of all known gaseous substances with the exception of helium. Low temperature research again, has deduced that under the influence of intense cold the great majority of, and probably all (if the temperature be sufficiently low), chemical interactions are entirely suspended. And yet, paradoxical as it undoubtedly is, many varieties of micro-organisms can be exposed to the temperature of liquid air for a period of six months without any appreciable loss of vitality. Seeds, also, steeped for hours in liquid hydrogen—that is, at a temperature within 20° of absolute zero, show a similar persistence of life—their vitality is unaffected, as is shown by the fact that after their immersion in this intensely cold fluid they germinate when sown as actively as seeds that have not undergone such treatment. It is clear that the conception of vitality based upon the maintenance of chemical activity must give way. In such a case we appear to be face to face with a third state, as Professor Dewar says, a new and hitherto unobtained condition of living matter, for at such a low temperature the ordinary chemical processes must cease. Another remarkable biological

application of the results of low temperature research has been the freezing of bacteria cells into hard breakable masses from which it has been possible to express the cell plasma. Thus the typhoid organism has been submitted to the process with the result that the cell plasma has been obtained for the purpose of determining its toxic or antitoxic properties. This line of research is calculated to throw fresh light on the nature and treatment of disease. Though, therefore, the absolute zero may never be attained, yet the exploration having that object primarily in view has yielded results of the highest value inasmuch as, amongst other things, it has given us further insight into the nature of vitality and possibly a fresh means of determining the physiology of the specific disease-producing organisms.—*Lancet*, Sept. 20, 1902.

Skimmed Milk and Mortality Among Children in France.

For some time it has been observed that mortality among infants and children resulting from unsuitable or insufficient nutrition is far more prevalent in the north than in the south of France. Dr. Girard and Dr. Bordas have published a map on infant mortality giving the proportion of deaths due to athrepsia and gastro-enteritis. Of every 100 deaths among children 69 are attributed to those cases at Troyes 63 at Rennes, 49 at Boulogne-sur-Mer, 62 at Amiens, 56 at Lille, and only 36 at Paris. Then going south of the Loire the proportion falls at once to, for instance, 31 per cent. at Toulouse, 12 per cent. at Béziers, and 6 per cent. only at Clermont. What seems at first sight a strange paradox is the fact that it is precisely in those provinces where there are the richest pasture lands and the most abundant supply of excellent milk that the children die from starvation. The reason is, however, very simple. These provinces have a large home and export trade in butter and all the milk is skimmed to make butter. In the south where there is no such trade the children are able to obtain some milk that has not been skimmed; hence the startling difference in the death-rates. In the great towns also, though there are many other causes tending to produce athrepsia, still the milk-supply is more strictly controlled by the local authority and is therefore of a better quality than that which is obtained in the butter producing countries. In Normandy and Brittany notably the authorities seem afraid to interfere with the great local industry by insisting that skimmed milk shall not be retailed to the public as pure milk. According to the law milk should be sold in bottles with labels stating whether the milk is pure, slightly skimmed, or very

much skimmed. Of course, it is impossible in practice to enforce such distinctions and, indeed, this rule has done much harm, for under the cover of a label skimmed and perhaps adulterated milk has been sold which certainly was not fit for consumption under any pretext whatsoever. The stress of poverty creates a strong temptation to buy the cheaper skimmed milk and thus the children are starved. Skimmed milk and flour or bread are boiled together and sometimes a spoonful of coffee or even of alcohol is added to it and very young children or infants are fed on this. The nutritive part of the milk is exported abroad as Normandy or Brittany butter. It is the skimmed milk that aids in "the manufacture of angels" which is the most lucrative phase of the baby-farmer's business. The peasant proprietor also is so eager to make the utmost profit possible that he cannot resist removing the cream from his milk even though he has young calves and pigs to feed. But he is careful to add to his skimmed milk some maize, potatoes, and other substitutes for the cream before he gives this milk to his cattle. He is not always so careful in regard to the children. All these abominations cry aloud for a more strict supervision and widely read papers like the *Matin* are now taking up this grievance. Statistics abundantly prove the great excess of athrepsia in those parts of the country where it is the custom to skim all the milk. Measures must be taken so that, in spite of the butter trade, children and infants may be able to obtain milk that has not been deprived of its nutritive qualities.—*Lancet*, Sept. 20, 1902.

CLINICAL RECORD.

Foreign.

CASES FROM PRACTICE.

By J. C. WHITE, M.D., Port Chester, N.Y.

1. *Rumex crispus*. Mrs. C. M. B., age 45 ; dark complexion, dark hair and eyes.

Constant sneezing and coughing ; profuse watery coryza, nose, eyes, throat and laryngeal region itch with desire to scratch ; < by cold air, lying (cough) ; < in June, July and August, > in winter. The dust makes her cough ; then occiput and neck sensitive to cold.

Rumex 6 gave speedy relief.

2. *Kalmia latifolia*. Miss D., age 14, was found sitting up in bed grasping her instep and pressing her right heel firmly down on the bed, because of severe intermittent pain ; could not induce her to move or to remove the pressure because of > of pain. Had suffered pain in cardiac region. Mitral regurgitation was observed with a rapid and spiteful beating heart.

Kalmia latifolia 10m relieved in two hours.

3. *Ambra grisea*. Mr. L. S., coachman, age 45. After a prolonged debauch went to bed with delirium, nausea, vomiting, and a severe paroxysmal cough.

The latter symptom was attended with a sensation of pressure upon the chest, cough < at night, by lying and the least excitement—even my own announcement would start his cough—which was generally dry.

Distorted images disturbed his rest.

Sweat profuse, especially at night.

After the failure of *Hyoscyamus* and *Nux vomica*, *Ambra grisea* 200 relieved quickly.

4. *Conium maculatum*. Mrs. A., age 60, had la grippe and suffered severe pain in left ear and finally suppuration. Since then she has had constant ringing in the ear ; vertigo on lying, especially when turning to the left. I was asked to prescribe for her cough, the symptoms of which were so very like *Conium* that they confirmed the selection of the remedy.

Conium 6 quickly cured the cough as well as the vertigo and ringing in the ear.—*Medical Advance*, August, 1902.

CASES BENEFITED BY X-RAYS.

By DR. GEORGE R. SOUTHWICK, M.D., Boston, Mass.

CASE 1. Woman, age 28. The right breast had been removed last October. The cancer recurred in January. At the time she first came to me there were several nodules along the line of cicatrix. The shoulder was swollen and there was considerable sloughing. The patient was unable to lie on either side, which caused severe pain, preventing sleep. The adjoining tissues had a bright red color. A secondary growth developed in the left breast, and there was considerable pain in it. Treatment with the X-Ray has been daily since the middle of April, with the exception of two weeks; length of exposure five to fifteen minutes. On the second day the patient experienced some relief from pain. After three treatments was able to sleep at night. At the end of a week could lie upon well side and complained of no pain. At the end of second week had grippe and had to discontinue treatment. The growth increased again. The pain returned and the arm was swollen. We have been working since then to relieve the pain. The axillary growth pressed upon the nerve and it was not until the size of this growth was diminished that the patient had relief, which has continued, and there is improvement in general health. The nodules have disappeared, also the redness. The discharge has practically ceased, and the sloughing area, which entirely healed and then broke down, has nearly healed over again. I have no doubt it will heal completely. Very little swelling is left. The secondary growths in the left breast can be scarcely felt, and the whole appearance of the case is changed materially for the better.

CASE 2. Man, age 65. Epithelioma of the ankle of six years' duration. Was unable to walk for some time, except on level ground without a cane. Has received twelve treatments. The affected area is materially reduced in size and new skin formed along the outer edge. The pain is practically gone and he can now walk all day and use his foot with comfort. Could always move the joint.

I believe when we can give relief in such cases as those just presented to you it is worth while to use the X-Ray. All of them have been benefited materially. It is too early to state what the final result will be.—*North American Journal of Homœopathy*, Sept., 1902.

CASES BY DR. SEIFERT, PARIS.

I. A CASE OF COSTAL FISTULA.

Mrs. Annie F., a married woman, thirty-eight years of age, had for years been suffering from rheumatic pains. In July, 1901, an extremely painful swelling developed on her back along the course of the sixth rib, on the right side of the spinal column and about ten centimeters distant from it; it was, however, unattended by any feverish symptoms. At first she consulted a neighboring druggist, who declared that the swelling was merely a simple neuralgia of the intercostal ribs, and gave her a fluid ointment with which to rub it. But as the swelling kept increasing in size the patient applied to an allopathic physician, who prescribed poultices. In the middle of August the swelling had reached the size of a goose-egg, and a little opening formed from which some drops of pus oozed out. The patient then determined to enter the hospital Beaujou, in the division of Prof. Bazy, who diagnosed the case as a diffused abscess.

An antiseptic bandage was applied to the discharging wound and two days later the opening was enlarged by a double cut (ten centimeters in length and ten centimeters in breadth), after which there was a copious discharge of pus for several days. The antiseptic bandage was continued, and since there was some suspicion of tuberculosis a corresponding diet was enjoined. Gradually the suppuration diminished and the wound had almost closed up. A further examination of the thorax and of the spinal column disproved the suspicion of tuberculosis as well as the diagnosis of a diffused abscess. The physicians then advised her to go into the country where the fresh air and strengthening diet would effect a complete cure. She left the hospital in September. The wound healed up after a fashion but there remained a fistula which continually discharged pus. So she returned from the country to the hospital in the beginning of November. The doctors now spoke of caries, and proposed to scrape the rib affected. The fistula had in the meanwhile been cauterized with *Nitrate of silver*. As there was also a repetition of the talk about tuberculosis, and the patient was opposed to an operation, she left the hospital, and on the 9th of November she came to my office. Her condition was so wretched that I also first thought of tuberculosis. But a careful examination showed that it was a simple costal fistula. I prescribed *Silicea* 30 and *Aurum muriaticum natronatum* in alternation. Occasionally she also received a dose of *Calcarea Phosphorica*. With the beginning of March the patient was completely restored, and nothing but a reddish cicatrice remained.

The pains had entirely disappeared, and the woman who, when she first consulted me, barely weighed 45 kilogrammes, now weighs 60, and enjoys excellent health.

II. AN OLD SYPHILITIC CASE.

Peter H., a coachman, thirty-five years of age, of vigorous constitution, was seized with syphilis about ten years ago. By allopathic treatment the primary and secondary symptoms were removed pretty promptly. The patient then took no further care of himself, and was also addicted to drinking. When, three years later, a little tumor appeared on the surface of the sternum he did not mind it, and even scratched it open to ease the itching; the wound which was thus formed he smeared with Vaseline without consulting any doctor. But when a sore formed which continually increased in size he finally determined to enter a public hospital. Prof. Hartmann, the physician at the hospital, at once recognized the wound as due to tertiary syphilis, and treated it as usual with *Mercury* and *Iodide of potassium*, the wound being covered with an antiseptic bandage. But the treatment was without any effect. The morbid process on the bone continually extended further, so that Prof. Hartmann proposed to scrape off that part of the sternum, to which Peter H. readily assented. But a few days later this process proved as ineffective as the internal treatment; the caries increased so much that Prof. Hartmann deemed it necessary to cut out part of the sternum. But as the patient was afraid that after this second operation he would be unable to do any more hard work, he refused to submit to the operation, and left the hospital.

Accidentally he had heard of Homœopathy, and therefore determined to try this method of cure. An operation might be undertaken, if necessary, at any time. So he came to my public clinic. His condition at this time was truly wretched. He was quite emaciated. Since he had been treated with *Mercury* his appetite had vanished entirely, and as he could bear hardly any food, his strength had so much decreased that he was hardly able to walk. Hoping to regain his strength he had used more liquor. The wound looked so malignant that I hesitated a moment when he asked me if it could be healed. It formed a hole the size of a pigeon egg in the middle of the chest. First of all I forbade him the use of all liquor and prescribed a regular diet. Internally he received every morning and evening four drops of *Silicea* 30, and before his dinner and supper he received a tablespoonful of the following solution:

Aurum muriaticum natronatum,.....2 centigrammes.

Aqua destillata, 200 grammes.

To the wound I applied a bandage moistened with a solution of the *Sublimate of mercury* in the proportion of 1:2000, to be renewed twice a day. In a week the wound had lost its malignant appearance. He had some appetite, and felt stronger. I continued the treatment, and at the end of the week the patient said he felt decidedly better. The wound began to heal up, his complexion was not so sallow, and his wrinkles began to fill up. The success was so striking that I could not conceal my astonishment, and went on much encouraged. The patient now complained of nocturnal pains in the bones, so I continued *Silicea* and substituted *Kalium iodatum* for *Aurum muriaticum*. Thus I succeeded in quieting the pain in the bones, when I returned to *Aurum mur*. This prescription was continued for four months, only injecting a dose of *Kalium iodatum* now and then for the pain in the bones. For some time now these pains had entirely ceased, and instead of emaciation and depression there was strength and cheerfulness. The wound had closed up and formed a scar, and its former seat could now only be recognized by a reddish white depression of the surface. Having been thus fully restored Peter had returned to his business. In the last seven years no syphilitic symptom has appeared; Peter shows himself twice a year in my office to make sure that every thing is in good order. Even the depression on the sternum has gradually disappeared, and only a cicatrice of mother-of-pearl color now remains. Peter, I am sorry to say, has resumed his old friendship with alcohol, but without suffering any particular harm from it. Though when he has been drinking too much brandy he sometimes beats his poor horse beyond reason, he continually shows his gratefulness to me. In the course of years he has sent a number of patients to my office, among them the case immediately before this.

III. A CASE OF STONE-HARD BREASTS.

Mrs. N., a washerwoman, thirty years old, had taken cold while washing and came into my public clinic with breasts as hard as stone and intensely painful. I prescribed water bandages a la Priessnitz, and gave internally *Silicea* 30, two drops every two hours. In two days the pain had vanished, but the induration of the breasts remained. I discontinued the wet bandages, but continued *Silicea*, which after six days' treatment removed all swelling.—*Hom. Recorder*, September 15, 1902.

Excerpts from Contemporary Literature.

ENVIRONMENT AS A CAUSE OF AGUE.

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The proceedings of the Malaria Congress recently held at Nagpur, Central India, under the presidency of Colonel A. Scott Reid, I.M.S., were full of interest and have led me once again to invite the attention of the profession to meteorological environment as a probable cause of those cases of malarial fever in which parasites cannot be discovered in the blood. In a paper read at the congress Dr. Stephens and Dr. Christophers stated that cases occurred, with fever clinically identical with malarial fever, in which parasites could not be found in the blood, after repeated search, before quinine had been given. It was also stated that in large numbers of cases of fever with enlarged spleens examined in Calcutta, the authors had seldom found the parasite in peripheral blood, although pigment was sometimes obtained by spleen puncture. Instances of failure to find the parasite in undoubted cases of malarial fever were narrated and every speaker at the congress affirmed the malarial nature of the cases of chronic fever with enlarged spleen. It would appear from this that under the term "malarial fever," as it is understood at present, are included two clinically identical, yet etiologically distinct, fevers which for convenience may be referred to here as (1) parasitic malarial fever and (2) non-parasitic malarial fever. The diagnosis of cases of the first class would, of course, rest on the recognition of the parasite in the blood by experienced observers for, as Manson says, "negative results by amateurs are valueless, and a positive result is not much more to be relied on." The second class would include all fevers clinically identical with malarial fever in which parasites cannot be discovered in the blood. It is to fevers of the latter class alone that I refer in this paper. Such fevers are, in my opinion, obviously and indisputably due to the meteorological environment under which they arise. By this environment I mean the hot, moist, stagnant atmosphere under which they become most prevalent and which was for many years considered a sufficient explanation of their cause. First, as regards this environment it is obvious that it may be of a higher degree of intensity in some places than in others, in some years than in others, and in some seasons than in others, but I hope to demonstrate that the inevitable effect of exposure to such environment is to produce an intermittent excess of water in the blood. This intermittent excess of water in the blood will be seen to afford a clear explanation of the intermittent pyrexia, the anæmia, the melanæmia, the enlargement of the spleen, and the other conditions characteristic of malaria.

I.—THE METEOROLOGICAL ENVIRONMENT UNDER WHICH INTERMITTENT
FEVERS BECOME PREVALENT.

The meteorological conditions under which intermittent fevers become prevalent have long been known and are indicated in the chart (not given here) which I have constructed from figures contained in the annual report of the Army Medical Department. It shows at a glance the difference between a malarial and a non-malarial environment. Where intermittent fever becomes prevalent, as at Singapore, both the atmospheric temperature and the atmospheric humidity are high, the mean atmospheric temperature being above 80°F., and the mean atmospheric humidity considerably above 80 per cent. of saturation throughout the year. On the other hand, where intermittent fevers are not prevalent, as in England or at Barbados, the mean atmospheric temperature or the mean atmospheric humidity, or both, will be much lower. In Barbados, although the mean atmospheric temperature is indeed higher than at Singapore, the mean atmospheric humidity is much lower, whilst in England, although the mean atmospheric humidity is as high as at Singapore for several months in the year the mean atmospheric temperature is very much lower. Thus from the chart it is apparent that the meteorological environment under which intermittent fevers become prevalent is not simply a high atmospheric temperature or high atmospheric humidity, but a high atmospheric temperature *and* a high atmospheric humidity; in other words, the environment under which intermittent fevers become most prevalent is the hot, moist, stagnant atmosphere, as has been known for a long time. What is the effect of exposure to such meteorological environment?

II.—EXPOSURE TO THIS METEOROLOGICAL ENVIRONMENT PRODUCES
INTERMITTENT EXCESS OF WATER IN THE BLOOD.

The amount of water in healthy blood is about 790 parts in 1000. During winter and spring about 80 ounces of water are taken in daily as drink and food and the same quantity, or a little more, excreted daily. During summer and autumn the amount taken in as drink is considerably increased and there must of course be a corresponding increase in the amount excreted, otherwise the amount of water in the blood would become excessive. Excretion of water from the blood takes place from the kidneys, the lungs, the skin, and the intestines. Practically, the amount excreted by the intestines remains constant in health, but the amount excreted by the kidneys and by the skin and lungs varies according to the atmospheric temperature. In winter and spring, when the atmospheric temperature is low, about two-thirds of the total quantity of water, or 60 ounces, are excreted by the kidneys, and one-third, or 20 ounces, by the lungs and the skin. In summer and autumn, when the atmospheric temperature is high, water is excreted chiefly by the skin and the lungs and the amount excreted by the kidneys is correspondingly reduced. The evaporation of this increased quantity of water from the lungs and the skin keeps the body temperature normal under exposure to very high atmospheric temperatures. But if during this season,

when water is being excreted chiefly through the skin and the lungs, any influence impedes its free excretion through these channels without at the same time producing a compensating increase in the amount excreted through the kidneys, the obvious result must be an increase of water in the blood.

Now, the very high atmospheric humidity, from 80 to 95 per cent. throughout the year, registered at Singapore, as shown in the chart, offers a very decided impediment to the free excretion of water from skin and lungs. For atmospheric air can only take up as much aqueous vapour as will saturate it. Moreover, there was no fall of temperature which would be sufficient to produce a compensatory increased excretion of water through the kidneys. Hence, when ague was so prevalent at Singapore the environments was such as must certainly produce increase of water in the blood. Wherever such environment is found an intermittent fever will certainly also be found. It will be explained later why this increase of water in the blood must be of an intermittent character. The environment given in the chart for Singapore may be taken as typical of the environment under which intermittent fevers reach their maximum of prevalence continued throughout the year. In India and some other countries such an intense degree of this environment is usually found, with few exceptions, at only certain seasons of the year. For instance, in the hot seasons in India the atmosphere is intensely dry, containing perhaps only 20 or 30 per cent of saturation, and evaporation of water from skin and lungs is consequently enormous. To this succeeds the rainy season, almost quite suddenly, and the atmospheric humidity increases to 80 or 90 per cent. of saturation. I have often in India seen the dry and wet bulb thermometers register the same temperature all this season, indicating that the atmosphere is saturated with aqueous vapour and therefore completely obstructing evaporation from skin or lungs. The fall of atmospheric temperature accompanying the setting in of the rains is slight and only temporary. It is not sufficient to produce increased excretion of water from the kidneys, as perhaps anyone who has resided in India will have observed. Consequently water must accumulate in the blood and tissues unless the amount taken in drink be largely reduced. Experience, however, teaches us that instead of being reduced the amount taken during the rainy season is just as much as during the previous hot dry season.

III.—THERE IS KNOWN TO BE EXCESS OF WATER IN THE BLOOD OF THOSE WHO SUFFER FROM INTERMITTENT FEVER.

Manson described malarial blood as pale lake coloured, thin, and watery. Liebermeister states that there is excess of water in the blood of those who suffer from ague, and that the wasting of the body in ague is sometimes concealed by the excessive amount of water in the blood and tissues. He also says that from this cause the weight of the body may be increased as much as 10 pounds, although there may be only slight œdema of the ankles. In addition the dropsical effusions which are not infrequent sequelæ of ague perhaps also indicate an increase of water in the blood of those who suffer from the disease.

Let us next inquire what are the obvious effects of an increase of water in the blood produced as indicated.

IV.—EXCESS OF WATER IN THE BLOOD PRODUCES PYREXIA.

The normal temperature of man is 98·4°F. or 37·0°C. and this is the product of two factors—(a) the amount of heat produced within the body and (b) the amount of heat given off, or lost, from the body. As regards the first it is known that the source of heat production within the body is the metabolism or tissue change which takes place in every act of vital energy. It has long been known that this metabolism can be increased by the free internal administration of water. If experimental proof of this be asked for pathologists tell us that injection of water into the blood causes a rise of temperature. Hence there can be no doubt but that an increase of water in the blood produced by meteorological environment will in its turn produce an increase of metabolism or heat-production in the body. But meteorological environment produces excess of water in the blood by impeding evaporation of water from the skin and lungs—that is, by diminishing heat loss. If it thus causes increased production of heat within the body and diminished heat loss from the body, as above described, the result must be increase of body temperature—pyrexia. Indeed, this has been proved experimentally by Frey and Heiligenthal who found that exposure in a Russian or hot vapour bath of 113°F (45·5°C.) for 25 minutes raised the body temperature to 104·3°F. (40·3°C.), whilst exposure in a Turkish or hot dry air bath of 147°F. (64·5°C.) for 50 minutes only raised the body temperature to 101·6°F. (38·6°C.). The explanation of this is plain. In the hot dry air bath evaporation of water from the skin is much increased and keeps the temperature down. In the hot vapour bath evaporation of water from skin and lungs is much impeded by the amount of water vapour in the air and therefore the body temperature rises. The temperature and humidity of the air during the fever season in tropical countries differ very little from those of the Russian vapour bath, and therefore such environment will be certainly, if not so rapidly, produce pyrexia in those exposed to it.

The weakest link in the parasitic theory of malarial fevers always seems to me to be the unsatisfactory explanation which it affords of the pyrexia, which is, after all, the chief clinical feature of these diseases. Laveran himself and other eminent authorities on malaria, when referring to the pyrexia, are compelled to say that the pyrogenic agency is “most likely” or “presumably” or “probably” some toxin, which is liberated from the sporulating parasite shortly before or during the rigor, and which is a solvent of hæmoglobin. The existence of any such toxin, however, is not only apparently not proven, it is but plausible conjecture. But where is the necessity for assuming the existence of a problematical toxin born of a sporulating parasite in those cases clinically identical with malaria in which parasites cannot be found, when Payne assures us that injection of water into the blood causes a rise of temperature, when Liebermeister declares there is this increase of water in the blood in ague, and when, as I have

shown above, this increase of water in the blood is the inevitable result of exposure to the meteorological environment found in malarial countries or climates?

V.—THE PYREXIA CAUSED BY INCREASE OF WATER IN THE BLOOD
DUE TO METEOROLOGICAL ENVIRONMENT MUST BE OF AN
INTERMITTENT CHARACTER.

To make this evident it is only necessary to point out that the environment which produces excess of water in the blood is of intermittent intensity, for in all climates atmospheric temperature and humidity undergo a diurnal variation. The highest atmospheric temperature is usually about 4 o'clock P.M. daily, when, as a rule the atmospheric humidity is at its lowest. This is the period when evaporation of water from skin and lungs is free. On the other hand, the lowest atmospheric temperature is reached daily about 4 or 5 o'clock A.M., and then the atmospheric humidity is at its maximum. This is the time when free evaporation from the skin and lungs is most impeded. In cold climates this is compensated for by the increased flow of urine produced by the fall in atmospheric temperature at night. But in the unhealthy season in tropical climates there is little or no fall in atmospheric temperature at night to produce this compensating excretion of water through the kidneys, as I daresay anyone will admit who has lived in a malarial climate during the unhealthy seasons. Consequently water accumulates in the blood, chiefly during the night. Now, as we have seen, the causes producing this increase of water in the blood are more active during the period from sunset to sunrise in the tropics and less active during the period from sunrise to sunset. This intermission in the activity or intensity of the cause must produce a similar intermission or tidal wave in the increase of water in the blood. If the increase of water in the blood is of this intermittent character, so will the pyrexia produced thereby also be.

Now in connexion with this point, that the intensity of the environment producing increase of water in the blood is greater by night than by day, may be noted the fact, admitted by all, that attacks of intermittent fever most frequently commence at night or in the morning. Why the intermittent fever produced in this way is quotidian in some and tertian or quartan, &c., in others would appear to depend on (a) the previous condition of the blood of those exposed to the environment, and (b) the intensity of the environment. With regard to the former, it is known that in different individuals the quantity of water in the blood varies within certain limits, the average quantity being 790 parts of water in 1000 of blood. It will, of course, require exposure to the environment for some time more or less before the quantity of water in the blood is increased to that degree which causes pyrexia. Let it be assumed that the degree which causes pyrexia is 830 parts in 1000. Then if four men whose blood contains respectively 790, 800, 810 and 820 parts of water be exposed to such environment it is evident that the increase of water which causes increased metabolism, pyrexia, will be most rapidly produced in the man whose blood originally

contained most water—820 parts. It only requires 10 parts added. This also accords with experience which teaches that those with the poorest or most watery blood most quickly contract ague when exposed to the environment. It will, of course, take longer in the other men to produce the 830 parts of water, the man whose blood was in the first instance normal (790 parts) requiring the longest exposure. Again, with regard to the intensity of the environment, let it be assumed that the degree of intensity to which these four men are exposed is such that it will produce an increase of water in the blood equal to 10 parts by one night's exposure. Then it is evident that the blood of the man containing originally most water—i.e., 820 parts—will have its water increased to that degree which causes pyrexia, 830 parts, by one night's exposure to the environment ; and although during the following 12 hours (day) critical elimination (sweat) may reduce it to the original 820 parts, still if exposure to such environment continues 10 parts of water will be added again the following night, reproducing the necessary 830 parts of water, increased metabolism, and pyrexia—that is, the paroxysms are reproduced once in every 24 hours and the type is consequently quotidian. In this way paroxysm follows paroxysm until medical treatment be adopted or, as will be explained hereafter, the red blood corpuscles are so much reduced that the hæmoglobin is not sufficient to provide material for the metabolism, causing the pyrexia, or until the environment changes. At the same rate of increase—viz., 10 parts each night—it will require two nights' exposure to produce the increase to 830 parts of water in the blood of the man containing originally only 810 parts ; and after elimination (sweat) it will take two nights to reproduce, that is, the degree necessary to cause the increased metabolism and consequent pyrexia is only produced every second day. There will be one day of apyrexia. That is, the type in this case will be tertian. Similarly it will require three nights' exposure at an increase of 10 parts nightly to increase the water of the blood in the man, containing originally only 100 parts, to the degree, 830 parts, which I assume produces pyrexia. It will only be produced and reproduced on the fourth day—that is, the type of fever in this man will be quartan. In the blood of a man containing originally only 790 parts of water it will take still longer exposure to produce, and after elimination to reproduce, the necessary 830 parts. In those with still less water in their blood and whose eliminatory organs are perfect it is conceivable that it may not be possible by an exposure to increase the water to 830 parts, and in such cases we should expect immunity from the disease.

It can be seen, then, if ague is due to excess of water in the blood, produced by environment, why the pyrexia should be intermittent in character and also why the type should be quotidian in some and tertian or quartan in other. It also becomes apparent why persons with the poorest or most watery condition of blood should most certainly and rapidly contract the disease when exposed to the environment whilst those with normally less water in their blood are less liable to contract it.

Moreover, if ague is due to excess of water in the blood produced by environment it becomes evident why quotidian is the most common type in tropical climates, while tertian or quartan is the more common type in temperate climates. For it is to be remembered that climates, as regards their atmospheric temperature and humidity, differ only in degree. In tropical climates in the unhealthy season of the year the environment (temperature and humidity) is of a higher degree of intensity and in temperate climates lower. Hence in tropical climates the degree of hydræmia that produces pyrexia will be more quickly produced and after elimination (sweat) reproduced; that is, the type of ague most commonly met with in tropical climates should be that with the shortest period of apyrexia—viz., quotidian, if caused by environment. In temperate climates, on the other hand, the environment not being of so intense degree must of course take longer to produce and after elimination (sweat) to reproduce the degree of hydræmia that causes pyrexia; that is, the type of ague most common in temperate climates, if this theory is sound, should be that with a longer period of apyrexia—viz., tertian or quartan. In both cases this corresponds with experience. In unusually hot summers of cold climates the environment which causes increase of water in the blood will also sometime, if seldom, be found. Hence the explanation of cases of intermittent fever in cold climates occasionally. Moreover, as the amount of water in the blood depends to a great extent on the balance being maintained between the amount taken in the food and drink and the amount excreted, and as the amount excreted depends to a certain extent on the functional activity of certain organs—skin, lungs, kidneys, &c.—it can be seen how deranged function of such organs might of itself produce increase of water in the blood, altogether independently of external environment. By such functional derangement the occurrence of those anomalous cases of ague which arise in those climates, seasons, or localities where the hot, moist, stagnant atmosphere that produces increase of water in the blood is not found may be explained.

“ VI.—EXCRETION OF WATER FROM THE BLOOD REDUCES THE
TEMPERATURE TO NORMAL IN AGUE.

We know that free elimination of water from the blood in ague reduces body temperature to normal. Free sweating obviously does so. This fact in itself is strong presumptive evidence that the increase of water in the blood is the cause of the pyrexia. For there are many other diseases in the pyrexia of which sweating does not produce this effect. Moreover, although sweating is the usual method of termination of a paroxysm of intermittent fever, the same result—i.e., reduction of temperature to normal—also follows free elimination of water by the kidneys or by purging. These two latter processes, however, only reduce the amount of water in the blood and so reduce metabolism or heat production, whilst sweating, besides reducing in the same way heat production, also increases heat loss and thus more quickly reduces temperature to normal.²

It is very suggestive that in the collapse stage of cholera, when elimina-

tion of water from the blood has been enormous and the blood remains thick and tarry, the body temperature is subnormal, and as absorption is restored and water again taken into the blood the temperature rises perhaps above normal.

VII.—INCREASE OF WATER IN THE BLOOD PRODUCES OLIGOCYTHÆMIA.

It has long been known that when water is added to normal blood the red corpuscles lose their discoid form, become spherical, swollen, and dropsical, the hæmoglobin is washed out of them, and ultimately they disintegrate and disappear. Hence it can be seen that increase of water in the blood caused by meteorological environment, which I have shewn produces an intermittent pyrexia, will also produce the extensive destruction of red blood corpuscles which is so characteristic of ague.

The tissue chiefly destroyed by the metabolism of pyrexia doubtless differs in different fevers, but in ague the red corpuscles of the blood are chiefly affected, leading to their extensive destruction and consequent anæmia and melanæmia. Hæmolysis or destruction of red blood corpuscles is, however, a process which is always going on even in health within the portal circulation. There the hæmoglobin escapes from the old red corpuscles and is in part converted into new red corpuscles and, in part into pigment. Such pigment is taken up by the hepatic cells and forms the colouring matter of the bile, urine, &c. If it is produced in quantity exceeding the amount that the hepatic cells are capable of converting into the colouring matter of the bile, &c., it is obvious that it must find its way into the general circulation and into the tissues, especially of the spleen, liver, kidneys, &c., thus causing melanæmia. Professor Hunter, who closely investigated this hæmolysis, tells us that this process may be increased by two sets of causes—viz.,—direct and indirect. The direct consists of agents such as water which, injected into the blood, act directly on the red corpuscles, liberating their hæmoglobin and destroying them. The indirect consists of agents which act on the red corpuscles through the medium of the splenic cells. The increased hæmolysis of disease, Professor Hunter adds, is similar to that produced by indirect hæmolytics, with two exceptions—namely, malaria and hæmoglobinuria—which he attributes to the direct action of the parasites on the blood discs. This may indeed be so. But in those cases of ague in which no parasites can be found why attribute the increased hæmolysis to their influence instead of to the increase of water in the blood, which Liebermeister assures us is present in all cases of ague, which Professor Hunter asserts to be a most powerful direct hæmolytic, and which I have attempted to show in the preceding remarks is the inevitable result of exposure to the meteorological environment under which malarial fevers become most prevalent? During hæmolysis Professor Hunter describes the appearance of the following forms in the blood: (1) colourless spherules, albuminous and highly refractile, of various sizes; and (2) coloured spherules. A red corpuscle becomes constricted at some portion, dividing into two parts, connected by a colour-

less portion. These are best studied by warming blood to 112°F., a temperature not much above that of the blood in the portal circulation during a paroxysm of ague. The corpuscle then breaks up into a number of highly-coloured spherules. This description of the disintegration of a red corpuscle by a temperature of 45°C. forcibly reminds one of the sporulation of parasites, as described by plasmodists during each paroxysm of ague. Of course, this resemblance of the disintegration of red blood corpuscles to the sporulation of parasites becomes more suggestive when it is remembered that hæmolysis is always more active within the portal circulation—the very situation where plasmodists tell us the parasites may be found when they cannot be found in peripheral blood. 3. Stromata, or decolourised red corpuscles, are also described by Hunter as appearing during hæmolysis. He adds that they are best studied by the injection of water into the blood.

Now, if these forms—colourless spherules, coloured spherules which break up into a number of highly-coloured bodies and stromata—are produced within the portal circulation in health, and if, as Hunter tells us, their production is increased by heat (45°C. or 112°F.) and by injection of water into the blood, it is obvious that their production must be considerably increased during each paroxysm of ague when there is increase of water in the blood and the temperature of the blood within the portal circulation is nearly, if not quite, as high.

Manson, a high authority on malaria, tells us that the destruction of red blood corpuscles in malarial disease is greatly in excess of anything which can be accounted for by the number of corpuscles attacked and consumed by the parasites. The number of parasites found in the blood might account for a destruction of 1 per cent. or even 5 per cent, but not for a 20 per cent. destruction, which is not uncommon even after a single paroxysm of ague. If, however, there is a form of ague, as I contend, due to excess of water in the blood this would account not only for a 20 per cent. destruction of the corpuscles, but when extreme in degree it would explain the almost total destruction of blood corpuscles. For increase of water in the blood will affect every corpuscle in the blood, and the greater the increase of water the greater will be the destruction of blood corpuscles and liberation of hæmoglobin. Indeed, so well recognised is this that hæmatologists consider the specific gravity of the blood affords a reliable test of the number of red corpuscles and their hæmoglobin value.

When the liberated hæmoglobin exceeds the amount that the hepatic cells are capable of converting into biliary and other pigments then it will presumably appear in the urine. This would seem to indicate that hæmoglobiuric fever owns the same origin as the non-parasitic intermittent fevers which only I refer to in this paper. This view gains support from the facts that hæmoglobiuric fever is found in those climates where is found at times an extreme degree of the meteorological environment that produces excess of water in the blood, that there exists some, as yet unexplained connexion between this disease and malaria, and, as Manson says, the

opinion that it is of parasitic origin is based more on considerations of probability than on logical deductions from demonstrated facts. If, as I am trying to prove, there is a form of malarial fever due to excess of water in the blood caused by meteorological environment then the explanation of the connexion between malaria and hæmoglobiuric fever is not far to seek.

VIII.—AN INCREASE OF WATER IN THE BLOOD PRODUCES PSEUDO-PARASITES.

It cannot be said that increase of water in the blood will produce parasites, but it will certainly produce those bodies which are called pseudo-parasites. They were at one time considered to be the cause of malaria. Indeed, there are many still who consider that true parasites can with great difficulty be distinguished from pseudo-parasites. Mannaberg admitted that in a minority of cases they could not be distinguished and Manson says that it takes a large amount of practice to be able to discriminate between parasites and vacuoles in the red corpuscles in fresh films. Indeed, there are even still a few who maintain that they are indistinguishable for the simple reason that they consider the parasites to be merely products of hæmolysis such as may be found within the portal circulation in health in any climate and in the peripheral circulation of those who suffer from malarial fevers. However this may be, it seems certain that increase of water in the blood will produce pseudo-parasites within it. Ehrlich tells us that poikilocytes are the products of a fragmentation of red blood corpuscles which can be produced experimentally by heating. They exhibit movement and were regarded by Klebs as amœbæ and similar organisms. Now increase of water in the blood and increased metabolism (heat production) caused thereby are the two very agents which we know, from experiment, give rise to the appearance of these bodies in the blood. The changes produced in corpuscles by these agents, as described by physiologists, I give below and in a parallel column for convenient reference some of the more usual appearances of malarial parasites as described by Laveran and others.

Physiologists tell us :—

1. If water be added to normal blood the red corpuscles lose their discoid form, become spherical, swollen, and dropsical, the hæmoglobin is washed out of them, and ultimately they disintegrate and disappear.
2. If blood be heated vacuoles are produced in the red corpuscles which appear as little, clear, colourless, shining spots that assume spherical, annular, or other form. They change their form, they increase in size, till they occupy half, two-thirds, or the whole of a corpuscle. They exhibit

Experts tell us :—

1. The red corpuscles attacked by the parasites are usually the larger ones. They lose their discoid form, become spherical, swollen, and dropsical, they lose their colour and hæmoglobin and ultimately are destroyed.
2. Malarial parasites appear in the first instance on or in the blood corpuscles as little clear colourless shining spots of various forms, spherical, annular, or other. They change their form, they increase in size until they occupy most or the whole of a corpuscle. They exhibit amœboid move-

apparent amoeboid movement from contractions in the surrounding hæmoglobin, and they throw out little beaded prolongations which wave to and fro. There may be one or more vacuoles in a corpuscle.

ment and throw out flagella. There may be one or more parasites in each corpuscle.

8. If blood be heated the white corpuscles, which may or may not contain pigment, exhibit amoeboid movement and Brownian movement of the contained pigment. Quinine paralyses the movements of the white corpuscles and reduces their number.
3. The larger spherical pigmented parasites exhibit active amoeboid movements and their contained pigment exhibits active swarming movement. Quinine kills the parasites and removes them from the blood.
4. The result of addition of water to blood and exposure to increase of temperature is wholesale destruction of red corpuscles and production of pigment free and inclosed in spherical or various shaped bodies.
4. The result of invasion of blood by the parasites is wholesale destruction of red corpuscles and increase of pigment free and inclosed in spheres, crescents, &c.

From the above it can be seen how increase of water in the blood will produce bodies closely resembling parasites—in fact, pseudo-parasites. The crescent-shaped bodies have been the subjects of much controversy. Ross, if I remember rightly, attributes their transformation and flagellation to abstraction of water from the serum and says that this is the influence to which they are exposed in the stomach of the mosquito. This opinion he formed as the result of many beautiful experiments. Marshall, on the contrary, after many similar experiments arrived at the conclusion that the transformation and flagellation of the crescent-shaped bodies are due to the addition of water to the serum and says that this is the influence to which they are exposed within the stomach of the mosquito. Although they differ, then, as to whether it is reduction or increase they agree that the transformation is due to some variation in the quantity of water in the blood such as I have shown to be the result of exposure to a certain definite environment.

Increase of water in the blood, then, caused by environment produces bodies in the blood which the best experts admit closely resemble parasites and which none but experts are capable of distinguishing from them.

When critical elimination of water (sweat) reduces the amount of water in the blood to normal the pseudo-parasites will disappear, or perhaps it would be more correct to say that the corpuscles which have not been destroyed will resume their normal appearance gradually. This production of pseudo-parasites during each paroxysm of an intermittent fever and disappearance during the apyretic interval would of course render more difficult the differentiation of parasitic from non-parasitic ague except by experts. The establishment of the theory that there is an intermittent fever due to environment would, however, relieve Laveren's supporters

from the difficulty of explaining how those cases in which no parasites can be discovered in the blood can possibly be caused by parasites. Moreover, the presence of pseudo-parasites in the blood of such cases would enable us to understand the assertion of those who maintained that the bodies they found in malarial blood were not parasites at all but simply altered blood corpuscles. Manson says that the staining process for diagnosing malaria is not to be depended on unless carried out by those with great experience.

IX.—INCREASE OF WATER IN THE BLOOD WILL PRODUCE ENLARGEMENT OF THE SPLEEN.

As we have seen, increase of water in the blood increases hemolysis or the destruction of red blood corpuscles. But the taking up and disposal of the fragments of disintegrating red blood corpuscles is the normal function of the spleen. Hence when increase of water in the blood produces increased destruction of these corpuscles increased functional activity of the organ and therefore increase of its size or bulk follows. Moreover, the increase of water by increasing the volume of the blood will of itself also directly tend to enlarge the spleen.

When critical elimination of water (sweat) occurs there is, of course, diminished volume of the blood, diminished destruction of red blood corpuscles, and consequently diminished functional activity and size of the organ which is normally called on to dispose of the disintegrated corpuscles. Hence in the apyretic intervals the spleen resumes normal size. But if this intermittent increase of water in the blood is frequently repeated the organ will become permanently enlarged, for it is known that transitory but repeated hyperæmia of any organ leads to a permanent enlargement of the organ, such as is found in ague cake, in those suffering from chronic malaria.

Now this view that the enlargement of the spleen is in some cases of intermittent fever at all events due to the intermittent excess of water produced by meteorological environment receives some support from a consideration of the periodical change in size of the organ that takes place in health. In health it is known that the spleen enlarges to some extent after every meal, reaching its maximum after some hours and then returning to its normal size. When food is taken into the stomach the first portion of it to be absorbed is its water, which enters the blood directly through the gastric vessels. This addition of water, of course, increases the volume of blood, and also destruction of blood corpuscles thus leading as described above, to the enlargement of the organ. This rapid absorption of water of the food by disintegrating and so getting rid of the old and useless blood corpuscles prepares the blood for the pouring into it some hours later of the other constituents of the food via the longer route of the intestinal lacteals and thoracic duct.

Another point which supports this view of the cause of enlargement of the spleen is that whatever other medicines, &c., we may also employ, a free use of hydragogue purgatives is indispensable for the reduction of

the organ to its normal size. Is not this an indication that in the first instance its enlargement is due to increase of water in the blood?

The spleen is enlarged in ague, then, because in this disease there is increased destruction of red blood corpuscles, the disposal of which in ague, as in health, is the normal function of the organ, and the increased destruction of corpuscles is produced by increase of water in the blood.

X.—THE MEASURES FOUND MOST USEFUL IN THE PREVENTION AND TREATMENT OF AGUE REDUCE CONSIDERABLY THE AMOUNT OF WATER IN THE BLOOD.

Prevention.—Drainage of the soil in paludal districts undoubtedly eradicates or at least considerably reduces the prevalence of ague. The most obvious effect of drainage is, however, that it dries the soil and therefore the superincumbent atmosphere. Drainage removes or at least reduces one factor (atmospheric humidity) of the environment that produces increase of water in the blood. In well-built, well-raised houses the humidity of the air is less than in the open, and those occupying such houses are therefore less likely to contract the fever to which I am referring than those who are liable to exposure at night. The same may also be said of residence in huts, tents, or even within mosquito curtains.

Treatment.—All effective treatment of ague reduces the amount of water in the blood. Diaphoretics, diuretics, and purgatives certainly do so. And it is to this that I attribute the curative and, indeed, preventive action of quinine. When ague becomes chronic a course of Turkish or dry-air baths is most beneficial; and what so obviously reduces the amount of water in the blood? Removal from the influence of the meteorological environment that produces increase of water in the blood usually cures ague.

XI.—SUMMARY,

What I have written above may be shortly summarised as follows: 1. Cases of fever, clinically identical with malaria, occur in the blood of which parasites could not be found after repeated search before quinine had been given. 2. The meteorological environment found where such cases occur, and indeed in all malarial climates, increases the amount of water in the blood of those exposed to its influence by impeding elimination through the skin and lungs (evaporation—heat loss) and through the kidneys. 3. There is known to be increase of water in the blood of those suffering from ague (Liebermeister). 4. Increase of water in the blood increases metabolism—i.e., heat production—and produces a rise of body temperature (Payne). 5. As environment thus causes diminished heat loss from the body and increased heat production within the body it is plain that it causes pyrexia. 6. This pyrexia must be of intermittent variety as the environment which produces it is of intermittent intensity—i.e., undergoes diurnal variation. 7. Elimination of water from the blood (sweat) in ague reduces the temperature to normal. 8. Increase of water in the blood produces polikiloeytosis, pseudo-parasites, liberation of hæmoglobin, extensive destruction of red blood corpuscles, and melanæmia. 9. An extreme

degree of those changes obviously leads to hæmoglobinuria. 10. Increase of water in the blood produces enlargement of the spleen. 11. Removal from the environment that produces increase of water in the blood usually cures ague. 12. All treatment of ague which is efficacious reduces the amount of water in the blood. 13. From these facts I think it is not unreasonable to conclude, that those cases of ague or intermittent fever in which no parasites can be found are demonstrably due to the environment under which they arise.

If my view is correct it is only one more illustration of the truth of the old saying that pathology in many instances seems to be but physiology in distress.—*Lancet*, Sept. 6, 1902.

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THE PRESENT STATUS OF HOMŒOPATHY.*

Being the Presidential Address delivered before the Fifty-Eighth
Annual Session of the American Institute of Homœo-
pathy, Cleveland, O., June 17, 1902.

By JAMES C. WOOD, M.D.

The American Institute of Homœopathy convenes to-night, June 17, 1902, under very different conditions from those which confronted it fifty-seven years ago at the first meeting. Then it was an infant in swaddling clothes, with a membership of but forty; now it is a giant with a membership of over 2,000. Then there was less than 300 homœopathic physicians in the United States; now there are over 15,000. Then there were no homœopathic colleges and no hospitals; now there are twenty colleges and 340 hospitals, dispensaries and sanatoriums under homœopathic control, having properties and endowments aggregating several millions of dollars. Then there were but two journals devoted to the interest of homœopathy and homœopathic therapeutics; now there are thirty-two. Then the literature of homœopathy was limited to a few books devoted to *Materia Medica* and therapeutics alone; now the whole domain of medicine has been covered by writers who practice and teach the law of similars. Then for a member of the so-called regular school to consult with a member of the so-called homœopathic school, meant professional ostracism and disgrace; now such consultations are of daily occurrence, and are openly advocated

* This address so well defines the present status of Homœopathy and the relations of the two schools which divide the medical world, that it deserves the widest publicity. We have therefore given it editorial prominence to the exclusion of many other matters.—*Ed., Cal. J. Med.*

by men occupying high positions in the American Medical Association. Then, and up to five years ago, no credit was given by colleges under the control of the older school for time spent in homœopathic colleges; now students in homœopathic colleges, and homœopathic graduates, are placed on a par nearly in all colleges of the older school with students of, and graduates from, so-called regular institutions. In short, the world has been moving in matters medical as well as in matters religious and political, and he who ignores this fact is either purblind or a laggard. Persecution on the part of the dominant school was followed by tolerance; tolerance has been followed by respect; and respect, unless we guard carefully our vantage ground, will prove but the forerunner of assimilation.

I am prompted this evening to indulge in the foregoing retrospection and prognostication for the purpose of bringing the issue which so much concerns the school homœopathic fairly and squarely before you. I cannot better define and emphasize the present attitude of the dominant school towards the homœopathic than by quoting from Dr. Reed's presidential address last year before the American Medical Association. In describing the "New School of Medicine" (Dr. Reed does not mean by this term the "homœopathic" school, but rather the new school of thought), he says: "It acknowledges no distinctive title, it heralds no shibboleth. It is a school of human tolerance, of personal independence, of scientific honesty. It is the slave of neither prejudice nor preconception, and abandons the accepted truth of yesterday, if it be only the demonstrated error of to-day. It places no premium upon personal prerogative, and extends no recognition to individual authority. It makes no proclamation of completeness, no pretension to sufficiency. It recognizes that truth is undergoing progressive revelation, not ending to-day, but continued through the ages. It yields its plaudits to achievement, and recognizes that he is the greatest among men who reveals the most of truth unto men. It greets as a friend him who thinks, though he thinks error; for, thinking, he may think truth, and thereby add to the common fund. It heeds all things, examines all things, judges all things."

Again Dr. Wm. Osler, of Johns Hopkins University, in the *New York Sun*, of January 27, 1901, said: "The century has witnessed a revolution in the treatment of diseases and the growth of a new school of medicine. . . . A new school of practitioners has arisen which cares nothing for homœopathy, and less for so-called allopathy. It seeks to study rationally and scientifically the action of drugs, old and new."

Many similar quotations could be made from the writings of prominent men of the dominant school, but the two distinguished gentlemen whom I have quoted represent a type of thinkers of that school which is constantly increasing in numbers. On the

other hand, a similar type of thinkers is growing up in the homœopathic school; and in many articles upon the present status of homœopathy, and its relations to other systems of therapeutics these thinkers have shown a disposition to meet their old time antagonists more than half way. In view to these facts I am prompted to-night to propound the following questions, and to answer them to the best of my ability:—

1. What influence has homœopathy had, if any, upon the medical thought and practice of to-day as represented by the dominant school of medicine?

2. Has homœopathy fulfilled its mission, and should we now permit ourselves to become a part of the dominant school of medicine?

3. What evidence can we put forth going to show that the law of similars, upon which the homœopathic school is based, is a law of nature and a law of cure worthy of being elaborated and studied by all who have at heart the best interests of humanity?

4. What have been the chief obstacles to the growth of homœopathy, and to its acceptance by the dominant school of medicine?

5. Is homœopathy losing in numbers, prestige, and popularity, as claimed by certain writers of the dominant school?

6. What should be our attitude toward that school and toward innovations in medicine?

These, I submit, are vital questions, and should be met fearlessly and without equivocation. As true scientists and sincere humanitarians, we should be willing to cast aside theories which time and experience have proved untenable, and supplant them by others which seem more reasonable and seem also better to conform to modern thought and attested facts. I shall, therefore, undertake to answer them in the spirit of one who cares for schools of medicine as such, the homœopathic not excepted, only so far as he believes that the art of healing can best be subserved by maintaining, for the present at least, distinct organization.

I begin then by asking: "What influence, if any, has homœopathy had upon the medical thought and practice of to-day as represented by the dominant school of medicine?"

I quote a few extracts from Holmes' *Principia Medicinæ*, which was a standard work in medicine one hundred years ago, when Hahnemann began his studies. For inflammatory fevers, venesection is advised "until the pulse returns to its proper strength." For ophthalmia, "bleeding, especially from the jugular veins; cupping on the nape of the neck; leeches to the temples and below the eyes, frequently repeated; blisters applied to the neck, behind the ears, on the head and temples; setons and issues in obstinate cases." For pneumonia, "large and repeated blood-letting; when the strength does not admit of further venesection, cupping should be performed betwixt the

shoulders; clysters, blisters, large doses of tartar emetic, etc." For toothache, "venesection, mercurial purgatives, sudorifics, emetics, scarifying the gums, leeches to the gums, blisters behind the ears, etc."

This much merely to show that down to the time of Hahnemann 2,400 years of empiricism had done little to dignify medicine as a science, or even to elevate it to the standard of an art. For hundreds, nay, thousands of years talented men had been engaged in the cultivation of the profession of physic. They toiled amidst discouragements and dangers, and exercised a philanthropy and a devotedness for which our meed of praise is offered with an ungrudging hand. But the inference that such efforts did more than blaze the way for that which was to follow, cannot be admitted.

In 1813 Pinel, one of the most celebrated of continental writers, said of the therapeutics of his day: "The *Materia Medica* has been nothing but a confused heap of incongruous substances, possessing, for the most part, a doubtful efficacy, and nothing, perhaps, is more just than the reproach which has been attached to it, that it presents only a shapeless assemblage of incoherent ideas and of puerile, or, at least, of illusory observations."

Fifty years later Dr. Paris, the President of the Royal College of Physicians, wrote: "The revolutions and vicissitudes which remedies have undergone, in medical, as well as popular opinion, from the ignorance of some ages, the learning of others, afford an ample subject for philosophical reflection." "And," he says, passing to modern times, we should not be surprised at the very imperfect state of the *Materia Medica* as far as it depends upon what is *commonly called* experience. Ray attempted to enumerate the virtues of plants from *experience*, and the system serves only to commemorate his failures; Vogel likewise professed to assign to substances those powers which had been learned from accumulated experience; and he speaks of roasted toad as a specific for the pains of gout, and asserts that a person may secure himself for a whole year from angina by eating a roasted swallow."

Polypharmacy was carried to such an extent that some of the most popular prescriptions, during the seventeenth and eighteenth centuries, contained from fifty to one hundred ingredients.

It was Hahnemann who first brought order out of chaos and placed therapeutics on a scientific basis. He it was who advocated the systematic proving of drugs upon the healthy, the single remedy, and the minimum curative dose. As is well known, he also enunciated the law of similars as expressed in the formula, *similia similibus curantur*. While the law of similars was suggested by writers before the Christian era, and later had been revised by Boulduc, Thoury, Von Störck, and especially by Stahl; and while both Haller and Von Störck emphasized the import-

ance of first trying upon the human body the remedy unmixed with any foreign substance, no one of these men had actually made such provings in a systematic way. This painful path was first trodden by Samuel Hahnemann. How greatly his pioneer labours have influenced the older school, we can easily determine by examining their literature. Their *Materia Medica* are now filled with the provings of drugs upon the well. Their pages contain innumerable illustrations of the application of the law of similars; and the advantage of administering remedies separately "in order (in the language of one of the most recent writers) to more accurately observe their effects, as well as to discontinue, or change the dose of, any one which may be necessary," is pointed out by all. Their improved and more refined pharmacology was made imperative by homœopathy.

Much more might be said going to show the influence which Hahnemann and his teachings have had upon modern medical thought; but, inasmuch as the facts which I have put forth are attested by men like Fletcher, Mott, Forbes, Liston, Trousseau, and Bristowe of the older school, it seems necessary to adduce no further evidence under this head. Let me say, however, before passing to my next topic, that I am not so foolish as to assert that without Hahnemann and his followers, medicine would have remained where it was when Hahnemann enunciated his great law of cure. On the contrary, I am inclined to believe that if the law of similars had been presented by one less dogmatic than Hahnemann, and had not been so obscured by mysticism and unthinkable hypotheses, it would long ago have become the working rule of all schools of medicine in the application of drugs to disease.

My second question follows the first in logical sequence: "Has homœopathy fulfilled its mission, and should we now permit ourselves to become a part of the dominant school of medicine?"

The spirit of the times is encouraging amalgamation and co-operation in competing corporate, business and philanthropic enterprises, and why should not the great schools of medicine bring themselves into harmony with this spirit? Even theology which has ever been weighted down by bigotry and dogmas, is learning the great lesson that truth is the prerogative of no denomination and no sect. The modern theologian believes with the great Swiss reformer, Zwingli, that the Father of Truths spoke truths to Plato, to Socrates, to Buddha, to Mohammed, and to Confucius, as well as to the Founder of Christianity. * In this spirit there was held ten years ago during a National Exposition the "World's Congress of Religions." Upon the same platform sat side by side Jew and Gentile, Catholic and Protestant, Mohammedan and Buddhist, Trinitarian and Unitarian, Dogmatist and Free Thinker, Materialist and Transcendentalist. A survey of theological history during the last years of the

century just closed reveals a spirit of religious tolerance which should bring the blush of shame to the cheek of him who is the disciple of Hippocrates.

Nevertheless, one who sincerely believes that he is advocating a principle and a truth which is destined, when it is fully elaborated and universally accepted, to benefit mankind beyond all human computation, would be a moral coward to save his conscience for the sake of peace and harmony, or for position. When a great and powerful body, such as is the dominant school of medicine, which has antagonized us for years, which never granted us concessions that were not forced, which bitterly opposed our admittance into state and governmental institutions, suddenly changes front, tears down its high walls of intolerance and exclusivism, and receives with open arms "him who thinks, though he thinks error, for, thinking, he may think truth and thereby add to the common fund," it behoves us as custodians of that great principle and that great truth to question the motive, and act with deliberation.

I impugn neither the honesty nor the good intentions of men like Reed and Osler. They have become thoroughly imbued with the idea that homœopathy, possessing, perhaps, a modicum of good, has now outlived its usefulness, and that the rank and file of the members of our school are anxious to renounce our name and adjure our principles for the sake of becoming an integral part of the body medical. They recognize (Dr. Reed says it in so many words) that the homœopathic profession, especially in co-operation with the eclectic school, is powerful enough to defeat any medical legislation, proscriptive or otherwise, which the dominant school may desire to inaugurate. This condition of affairs, says Dr. Reed, "was brought about under the stimulus of ostracism and the fostering care of public sympathy thereby induced." If, therefore, we will drop our distinctive name, apologize for having so long remained a "sect" in medicine, and promise to commit no *lese majesté* in the future, we are to be received into the fold of so-called regular medicine.

I am willing to admit that the "unity of medicine" under proper conditions is something devoutly to be desired. But the dominant school of medicine is not yet ready to accept these conditions. They involve a full recognition of homœopathy and the law of similars by all colleges and societies of that school, so that homœopathy shall be taught in such colleges as thoroughly and as earnestly as at the present time it is taught in our homœopathic institutions. That time will not have arrived until homœopathy shall have so perfected its peculiar system of therapeutics as to have gained a large number of advocates among the writers and teachers who designate themselves as "regulars." That that time will come in the future there is not the shadow of a doubt, and I shall further along endeavour to show how we, as a

school, may hasten its advent. Meanwhile some light may be thrown upon current tendencies by citing the experience of a prominent member of an old school faculty in this city, who one year ago, in order to obtain the sentiment of the profession regarding the wisdom of establishing a homœopathic chair in his college, sent a reply postal card to all "regular" physicians in the State of Ohio, asking their opinion on the subject. Nearly every man under forty years of age was in favour of establishing the chair, while almost without exception the older men opposed the scheme. This is valuable testimony, and shows conclusively that it is to the younger men we must look for unprejudiced thought and action.

I have already endeavoured to show the impress which homœopathy has left upon the dominant school. But this impress has been general rather than specific. The therapeutics of that school is yet in the most chaotic state. Empiricism of the rankest kind still characterizes its literature and its teachings, even in the application which it makes of homœopathic remedies. Vaunted specifics come and go like the morning dews. To-day some remedy is heralded as a universal panacea for certain diseases and certain conditions; to-morrow it is assigned to oblivion, there to remain with the thousands which have preceded it. This process has continued until the average old school practitioner has become a therapeutic agnostic, so far as internal medicine is concerned, relying rather upon mechanics, dietetics, and prophylaxis, than upon remedies to cure disease.

This is a sweeping arraignment, but testimony in support of it can easily be adduced. No one will, I think, question the standing of Dr. James F. Goodhart, who delivered the annual address on medicine before the 1901 meeting of the British Medical Association. Dr. Goodhart asks the question, "Why do we give drugs?" "Often," he answers, "not because the disease demands them, but because the patient is not happy until he gets them; too often he is not happy then. They are sometimes given to hide our ignorance, I fear, or to mark time while we watch and wait. They are sometimes given as a gambler on the 'Exchange' speculates in futures, an enhanced reputation being the windfall that it is hoped to secure; and then we often give drugs as an experiment in the hope that they may do good."

As to drugs themselves, he says: "Diseases run in fashions and so do drugs. Their popularity is enormous, far in excess of their merits; and by and by they sink into the cold shade of neglect. . . : Who does not even now remember the boom of antipyretics. A few of them remained to us for other purposes but as antipyretics, who gives them now? . . . They were rushed for more than they are worth, and they are now buried by later booms, such as animal extracts and antitoxin, and many of these will be buried too."

These are not the sentiments of one who has no right to speak *ex cathedra* in the counsels of his school. Dr. Goodhart has but few peers as a writer and teacher. Nor is he a sporadic case. He but echoes the teachings of men like Osler, Tyson, and Anders of this country, writers who have produced works classic in all that pertains to the domain of causation, pathology, and diagnosis. One has but to pick up any modern text-book on practice belonging to the older school to find in almost every chapter confirmation of Dr. Goodhart's agnosticism so honestly expressed.

It is indeed refreshing to turn from the agnosticism and uncertainty which characterize the therapeutics of that school to the precision and the permanency of the therapeutics of the homœopathic school. The indications for bryonia in rheumatism and pleuritic pains were given us nearly one hundred years ago. Bryonia is just as useful to-day as it was then for the conditions enumerated, when the indications prevail. And so it is with hundreds of other remedies based upon a law of nature immutable and unchangeable rather than upon an hypothesis put forth to explain supposed facts and phenomena.

From the standpoint, then, of a homœopathic physician, it is not yet time to surrender either our name or our distinct organization. The law of similars, or if you please, the law of substitution, can no more be separated from the distinctive name of "homœopathy" than can the teachings of Martin Luther be separated from that of the Reformation. In another twenty years the term "homœopathic," which in the past has acted like a red flag flaunted in the face of an angry bull, will not grate upon the ear of progressive and liberal men of whatever school, any more than at the present time do the terms "psychopathic," "neuropathic," and "hydropathic." The school which has so long been thrown into hysterics by the term "pathy" is rapidly being split up into many.

When the single reservation, then, that we shall hold fast to our historic name and to our fundamental principle, we can meet the liberally inclined gentlemen of the older school more than half way in all matters pertaining to the public weal, whether they have for their object the betterment of civic government or the advancement of medical education. There can be no possible objection to our affiliating ourselves with their societies, provided that in so doing we are not called upon to renounce either our name or our principles; and if they admit us to affiliation, we, on our part, ought to be equally magnanimous and open the doors of our societies to all physicians complying with the standard educational requirements, upon the same terms. If they advance methods of cure which can advantageously supplant the law of similars, we shall remain receptive and open to conviction. But we believe we still have a mission to perform in perfecting and advancing that law, so that it will be accepted by all schools as a

working law in therapeutics. Until that mission is performed we shall preserve our independence and our identity.

Again, however pleasant may be the relationship existing between the two schools of medicine among the teachers, writers, and specialists of the respective schools, especially in localities where homœopathy is strong numerically, this feeling does not prevail in communities where homœopathy is but feebly represented. In order to speak authoritatively upon this subject, I wrote a personal letter to representative members of this Institute residing in various sections of the United States and Canada, asking the following questions:—

1. What is the relationship existing between the two professions in your city?

2. Is the homœopathic profession received kindly in the various hospitals of your city under old school control, and upon the same terms as is the regular profession not connected with the staff of such hospitals? Do the members of the regular profession consult with homœopathic physicians, and do they treat you fairly and squarely?

3. Is there any discrimination made in official appointments?

4. Do the two professions meet harmoniously and pleasantly in a social way?

A tabulation of the answers to these questions shows that in nearly all cities in which homœopathy is strong numerically, the relationship existing between the two schools is reasonably cordial and pleasant; that consultations between members of the respective schools are of common occurrence, and that the homœopathic profession has access to nearly, if not quite, all the hospitals under old school control. In the city of Cleveland the utmost cordiality and liberality prevails between the two professions, and many of my warmest friends are men of the older school. On the other hand, in sections of the country where homœopathy is not fully established, the bitterest antagonism on the part of the dominant school still exists. Consultations are held but rarely, if ever; homœopathic physicians are debarred from the established hospitals; the grossest discrimination is made in official appointments, and socially there is no intercourse. All this in the year of our Lord 1902, and 250 years after Wm. Harvey said, "I claim that liberty, which I willingly yield to others, namely in subjects of difficulty, to put forward as true such things as appear to be probable until proved to be manifestly false."

In the face of these facts are we not in duty bound to stand by the many little coteries of men who, in this country and in Europe, are waging an unequal fight for the sake of principles which they believe to be right and just?

Again, in logical sequence, I approach question three.

"What evidence can we put forth going to show that the law of similars, upon which the homœopathic school is based, is a law

of nature and a law of cure worthy of being elaborated and studied by all who have at heart the best interests of humanity?"

In answering this question it is necessary to form some conception of what nature is. I think it can best be defined by the words "unity" and "harmony." The science of nature is the study of relations by which matter and elements are bound together. Therefore, a new scientific fact is simply the perception of a new relation. A "Law of Nature," then, means a law which fits or matches other well-known laws with harmony and precision. "Thus," says Dole, "each new element, as it is discovered, fits into a kinship of elements, where before there had been a gap. The unrevealed thing is not yet a truth till its relationship is found out. As soon as the scientific eye sees with regard to the new flower or tree, the new chemical element, the new planet, that this matches with all other things known; as soon as the astronomer finds that the hitherto supposed disturbance in his calculations is in fact demanded by the law of gravitation, that it heralds the presence of an unknown asteroid, the area of truth, that is, harmonized knowledge, is widened."

Carrying this beautiful conception of nature to its logical conclusion, we are forced to believe, even in these days of intense materialism, that an all-wise Creator did not create harmony so complete that "the characteristic of everything natural is that it fits together with everything else" only to leave his children at the mercy of caprice and chance in contending with disease and suffering. Must we see order in one place and chaos in another? "Must we," to paraphrase again from Dole, "stand in wonder at one moment at the marvellous correlation of the machinery and the forces of the world, and then at the next moment be struck aghast at the disorderly results of the working of this Titanic system in the one realm where its working concerns us"—in disease, in life, and in death? To me, a physician, the supposed unity of nature avails but little if it merely correlates the several natural sciences into a "poem or symphony" from which nothing can be omitted, and stops short of affording a law of cure which is beneficent and reliable.

But while it is probable that a law of healing exists in nature, it by no means follows that the law of similars is that law. In undertaking to prove that it is, it is unfortunate that all methods of cure must ever remain without the domain of the exact sciences. It is impossible to repeat experiments in the biological sciences as in chemistry and in physics. Even in the exact sciences, as we call them, which deal with facts, we touch forces that we cannot understand. Herbert Spencer has shown that we cannot take up any problem in physics without being quickly led to some metaphysical problem which we can neither solve nor evade. If this is true of the science of physics, how much more true is it of the science of the human organism. In disease no

two cases are alike, and it is impossible to make invariable deductions because of the disturbing influences of constitutional bias, race, and environment.

I therefore know of no way of proving that the law of similars is a general fact, a principle, a law of nature, except by clinical demonstration. Learned hypotheses may be brought forward to explain a fact, but they still remain hypotheses. We may find it difficult or impossible to explain why a magnetized steel bar when it is encircled by a current of electricity will move to the right hand or to the left, instead of pointing steadily to the north pole of the earth; but it is a fact, nevertheless, that it will. It is impossible to explain why the ripened apple drops to the earth instead of flying off into space, but it is a fact that it does drop to the earth. It is difficult to explain why oxygen will combine with the other elements only in the proportion of sixteen parts by weight; but it nevertheless remains a fact—a law of nature unalterable and uncompromising. And so it is with the law of similars. It is hard to explain why a remedy which will produce certain symptoms when given to a person in health, will cause similar symptoms to disappear when administered in disease. It nevertheless remains a fact, demonstrated beyond all question in the clinic and at the bedside, that it will do so within certain limitations. This one fact is worth more to the agonized mother bending over her sickchild, than all the theories set forth by all the physicians since the dawn of civilization. It matters little to that mother whether the shibboleth of homœopathy is expressed indicatively or subjunctively, so long as her child is restored to health. The old world is weary of the quibbling over creeds, definitions, and formulæ. In any department of thought it is the essence of truth rather than its form of expression that the earnest seeker most cares for. Theories and hypotheses put forth to explain the law of similars “inductively founded upon innumerable instances” only obscure its almost sublime simplicity.

Homœopathy is, then, a practical fact to be observed at the bedside. It is simple and intelligible; and it stands upon its comparative merits. There has never been a public trial of it made but that it has gained immeasurably by comparison with the methods of treatment of the older school. Let us enumerate some of its most obvious claims to superiority, which have been emphasized by many writers:—

1. Homœopathy affords a practical guide in the treatment of disease, while so-called regular medicine, as regards therapeutics, notwithstanding its marvellous strides in all other departments, is still in a condition of chaos and uncertainty.

2. Homœopathy aims at the eradication of disease whenever this is possible, rather than merely to afford palliative relief.

3. Homœopathy economizes the vital powers by administering the minimum curative dose.

4. The homœopathic physician first learns the properties of drugs by experimenting upon the healthy, rather than upon the sick.

5. The homœopathic physician is therefore better prepared to treat any new form of disease which may present itself than is the so-called regular physician, for the reason that he bases his treatment upon the phenomena of disease rather than upon its essence, and deals with such phenomena inductively rather than deductively.

The foregoing claims are not re-echoed at this time in the spirit of a narrow partisan who can see nothing good beyond the realm of his own school of medicine. On the contrary, I realize that it is becoming more and more the mission of the true physician to prevent rather than to cure disease. I realize, too, that there are many other methods and possibly other laws of cure. I am aware that for infinite ages human beings have suffered and died under all methods of cure, and that the best we can do under the most favourable conditions is too often futile and valueless. These claims are presented for the purpose of comparison rather than from a spirit of boastfulness. If they are substantiated by facts, as I honestly believe they are, let us pass to question four:—

“What have been the chief obstacles to the growth of homœopathy and its acceptance by the dominant school of medicine?”

I have already intimated that the growth of homœopathy and institutions homœopathic has been, in many sections of this country at least, far from unsatisfactory. Now, if the law of similars is the best and most universally applicable of all the laws or methods of cure yet enunciated or evolved, as we claim, should it not long ago have been accepted by progressive and scientifically inclined physicians of all schools? Hahnemann promulgated this law at a time when, as later experiments proved beyond all peradventure, the treatment in vogue was doing infinitely more harm than good. Hahnemann himself was a physician of acknowledged ability, culture, and scientific attainment. He had more than a national reputation as a chemist and a scholar. He was a recognized member in good standing of the so-called regular profession. He published his first observations and experiments in a well-known and recognized journal of his school—*Hufeland's*; and the law which he enunciated was destined to revolutionize the practice of medicine and pharmacy. Yet it remains a fact that the law of similars is still unacceptable to a great majority of medical practitioners throughout the world. It is our duty, as custodians of this great law, fearlessly to analyze the reasons why this is so. Such an analysis will show that the great obstacles to the acceptance of homœopathy have been two in number. They are, first, the dogmatic and ultra-conservative spirit of scientists in general; second, the counter-dogmatism of Hahnemann himself and of certain of his followers.

In approaching the discussion I shall first remind you that the dogmatism of science is and ever has been the most intense of all forms of dogmatism, that of religion not excepted. As John Fiske puts it, "There has grown up a kind of puritanism in the scientific temper which, while announcing its unalterable purpose to follow Truth, though she leads us to Hades, takes a kind of grim satisfaction in emphasizing the place of destination." On the whole this vigorous and rigid scientific temper is commendable and desirable, but if the evidence of truth is not immediately forthcoming; if such evidence conflicts with long existing conceptions of truth, history shows that all innovations destined to promote the welfare and happiness of mankind have ever been contended against by human passions and human prejudices. Thus in 1592 a celebrated anti-religious professor of Padua had so little faith in the discovery of Galileo that he declined to look through the great astronomer's telescopes in order to disprove the charge of "heresy" which had been made by the church. In 1737 Galvani, when he announced his great discovery, was dubbed "the frogs' dancing-master." In 1743 Lavoisier, a noted French scientist, declared, in discussing the possibility of aerolites: "There are no stones in the sky, and therefore none can fall upon the earth." In 1752 Benjamin Franklin was greeted with shouts of laughter by the Royal Society of Great Britain when he declared the identity of lightning with other electrical phenomena. And as recently as 1822 Daguerre came very near being consigned to an asylum for affirming "that he could fix his own shadow on magical metallic plates." Nearly fifty years after Harvey had announced his great discovery to the world, the Paris Royal Society of Medicine gravely listened to an essay which classed it among the impossibilities. Jenner's great discovery of vaccination, notwithstanding that it affords us security from that horrible and once universal plague, small-pox, is still opposed by a small minority of educated physicians. Hydrotherapy, while to-day the chief reliance of the older school in the treatment of fevers, was ridiculed for years by that school. Electro-therapy and hypnotism were long practised by irregulars and quacks, before the regular profession investigated their worth. And certain men prominent in the profession are to-day emphasizing the inutility, if not the actual harmfulness, of antiseptics and asepsis, even though thousands upon thousands of lives are annually saved by the practice inaugurated by Lister. Such being the attitude of the scientific mind toward all great revolutionary discoveries, it is perhaps not much to be wondered at that the law of similars should make headway but slowly.

One would, however, naturally think that the revolt of Descartes against the scholastic philosophy of the seventeenth century, and that the contributions made to science by Newton, as well as the discoveries of Harvey, Black, Lavoisier, and Coper-

nics would have so prepared the way for the advent of a great and natural law in healing, as to have made its reception cordial and its application universal. But it is hard for men of any generation not to be influenced by the prejudices and errors of their predecessors and contemporaries.

In the second place no earnest student of the history of homœopathy can, I think, fail to recognize the fact that much of the opposition with which it has had to contend is due to factors inherent in the teachings of Hahnemann and a small party of his followers. Hahnemann's dogmatism in his older days repelled many who otherwise would have investigated his system. It was a dogmatism begot by persecution, by exile, by poverty, by calumny, by unreasonable and intolerant criticism, and finally by victory and success. This man, who drank of the very dregs of poverty for truth's sake, well deserves all the encomiums that you and I who have profited by his sacrifices can bestow upon his memory. The very least that a grateful profession in this great republic could do was to insure the perpetuation of that memory by erecting in our capital city the most beautiful and artistic monument in that city. I cannot say too much for the genius of this great man and physician. His name will be handed down to successive generations as one of the world's benefactors. His writings, compared with the writings of his contemporaries in medicine, were far in advance of his day and generation—a fact which, if anything, intensified his dogmatism. But hypothetical explanations have led more than one great mind into waters too deep for safety. Facts do not fit hypotheses, even though reason says they should. The strength of any chain of arguments is no stronger than its weakest link; and thus Hahnemann, by the use of such terms as "vital principle," "dynamic action," "spiritual," and "potentization," obscured the law of similars with theories based upon hypotheses which, until the end of time, will remain nothing but hypotheses. The law of action and re-action asserted itself here as it ever has done. Hahnemann passed from the gross materialism of his day to extreme infinitesimalism, which has ever retarded the recognition which homœopathy long ago should have received.

Had Hahnemann possessed a personality less attractive and a genius less inspiring, it is possible that his dogmatism would not have so thoroughly infected some of his followers. In my mind there is little choice between the dogmatists belonging to the different schools of medicine; at the best the difference is only one of degree. Should I live to be an hundred years old, I shall never forget the impression made upon me by two such dogmatists, while a student of medicine in the University of Michigan, when its homœopathic department was but a few years old. A professor in the department of medicine and surgery, narrow and intolerant, made the assertion that "he would rather a

patient suffering from intermittent fever would die under 20-grain doses of quinine, than get well under the thirtieth dilution of natrum muriaticum." When the information was carried to a certain instructor in the homœopathic department, he replied that "he would rather a patient would die under a strictly homœopathic remedy than get well under massive doses of quinine." Four hundred years before these men would have attained to high rank in the Inquisitorship of Torquemada.

Men of this stripe are yet to be found in all schools of medicine, but I am glad to say that they are growing fewer in number each year. It is useless to meet them by bland, unmodified denial, since, as De Quincy says, "all errors arise in some narrow, partial, or angular view of truth." They do not seem to realize that the problems of medicine will never be solved once for all, but that each generation has to make its own solution. Those in the homœopathic school are, as a rule, honest and sincere in their convictions, which makes them all the more unreasonable. I have no desire to restrict them in freedom of thought or liberty of action. They should, however, be willing to grant equal privileges to all others. The term "mongrel," when one sees fit to advocate measures other than homœopathic, no longer has a place in the literature of any modern school of thought. The "holier than thou" assumption belongs to the dark ages rather than to the twentieth century. Criticism of the *Organon* should not be confronted by traditional views and dogmatic statements which decline investigation and revision. Hahnemann's teachings should be accepted for what they are worth to-day, not what they were worth one hundred years ago. New discoveries and innovations in medicine and prophylaxis should be duly investigated and not contended against, as though truth were better subverted by jealously ignoring all without the pale of the law of similars. If that law cannot withstand the searchlight of twentieth century methods, it were better a thousand times over to let it go to the wall than to lose one single life by clinging to an exploded dogma. If you think that I am putting the case too strongly, let me ask you to carry the application to the bedside of your own household!

Personally, I have no fear of such investigations and such comparisons. If homœopathy is what we claim for it, investigation and comparison will but aid us as a school. If it lose by comparison, we should be the first to express our gratitude for better methods. "There is," says Emerson, "a statement of religion possible that makes all scepticism absurd." There is, in my opinion, a statement of homœopathy possible which will purge it of its superfluities, and make it acceptable to all thoughtful and intelligent physicians. This cannot be made in a day. Further, it must be done by the homœopathic profession itself. New provings along the lines followed this year by one of our special

societies, utilizing, as was done, the microscope, the test-tube, and all modern methods of diagnosis, are imperative. We should work for a large endowment to accomplish this end. There is here an opportunity for some of our philanthropic rich to do a world of good for suffering humanity—a fact which we should keep constantly before the public.

“Is homœopathy losing in numbers, prestige, and popularity, as claimed by certain writers of the dominant school of medicine?”

It must be admitted that, since the dominant school has changed its attitude toward what it pleased to term the “sectarian schools,” a considerable number from the homœopathic ranks have taken degrees from so-called regular colleges. Down to five years ago, with two or three exceptions, converts from homœopathy to the dominant school were almost unheard of, whereas converts from that school to homœopathy were many. The new order of things was therefore proclaimed far and near as conclusive evidence that homœopathy was dying, if not dead. In order to controvert this statement, I wrote to all of the homœopathic colleges in this country asking for the number of graduates and students of regular colleges who have, during the last five years, received degrees from homœopathic colleges. I find that during this period 284 men and women, coming from the ranks of regular colleges and schools, received degrees from eighteen homœopathic colleges in the United States, with two colleges to hear from. During the same period of time there has been a total of 1,903 degrees conferred by the same colleges. Let the gentlemen of the older school, who annually “bury” homœopathy, ponder over these figures. We have so often been killed and “buried” by our enemies that the process is becoming rather agreeable than otherwise. We revive with alacrity, and continue to press the electric buttons which open the doors of the wealthy and the cultured throughout the land. I ask in all earnestness if it were possible for any advocate, no matter how ingenious and plausible, to inaugurate a system of medicine which could survive one hundred years of criticism and persecution, becoming, as it has, a great power in this free land of ours, were it not founded upon a great truth rather than upon a mere hypothesis? In spite of the most unjust legislative restrictions which prevail in nearly all foreign countries, homœopathy has established itself in every civilized community on the face of the globe. Homœopathy is neither dead nor dying, but, on the contrary, is daily gaining in prestige and popularity.

Finally, “What should be our attitude toward the dominant school of medicine and toward innovation in medicine?”

In answering this question it is first necessary to define the legitimate sphere of homœopathy and its limitations. I discussed this phase of the subject in an address which I had the honour of

delivering before this body three years ago, and as Dr. Dake so concisely expressed my views I quoted from him as follows :—

1. "The homœopathic law relates to no agents intended to affect the organism chemically.

2. "It relates to none applied for mechanical effect simply.

3. "It relates to none required for the development or support of the organism when in health ; and

4. "It relates to none employed directly, to remove or destroy parasites which infest or prey upon the human body."

To this series of propositions I would add :—

1. It relates to none which acts in a purely eliminative way to rid the system of poisons and ptomaines.

2. It relates to none which acts in a purely physiological way, as a food ; and

3. It relates to none which acts in a purely stimulative way.

I believe that an explanation such as the foregoing, fairly and squarely expressed, will disarm criticism and extend the usefulness of homœopathy. It places our school upon a broad and liberal foundation, which will appeal strongly to all earnest students of medicine. It will limit the law of similars to its legitimate sphere of action—the curing of diseases which are curable by the principle of substitution, and leave its advocates free to utilize all methods of cure or relief which will best subserve the interests of the patient. There are, to be sure, men who will claim that the homœopathic remedy is all sufficient for all conditions. If these gentlemen have become so proficient as to require nothing without the domain of the law of similars in contending with disease and suffering, they are to be congratulated ; there are comparatively few of us who possess the knowledge to do so. Personally, I believe it the duty of the physician, first to prevent disease, if possible ; secondly, to cure disease which he cannot prevent by the safest, surest, and easiest method at his command ; and, thirdly, to bring comfort and relief to the incurable by those means which are most available and most satisfactory, whether homœopathic or otherwise. This course leaves a wide scope for the application of the homœopathic law, while it broadens our conception of the healing art. We are physicians first, and homœopaths secondly.

Watts once said : "The mind which is searching for truth ought to remain in a state of suspense, until superior evidence on one side or the other inclines the balance of the judgment and determines the probability and certainty to the one side."

Unfortunately all truth cannot be put into the forms of a mathematical proposition, and "he who would master any truth must learn what a jealous mistress he must serve."

How much more inspiring would have been the history of medicine had these trite sayings been kept in mind by the men who have gone before. How much more honourable will the

history of the future become if we now heed them, and purge the profession of its dogmatism, bigotry, and intolerance. "Scientific inductive research," says Tyndall, "requires patient industry, and humble and conscientious acceptance of what nature reveals. The first condition of success is an honest receptivity and a willingness to abandon all preconceived notions, however cherished, if they be found to contradict the truth."

The medicine of to-day is but the consummation of the medicine of the past ages, and infinitely more is expected of us than of our forefathers. Much more is being accomplished than formerly without the use of drugs. Prophylaxis is no longer what the Platonic Atlantis was to the Greeks—a mythical land of unfulfilled promises. The wonderful conquests of surgery are the marvel of the age. The germ theory of disease has revolutionized the practice of both medicine and surgery. Pathology is rapidly finding its place among the exact sciences. Microscopy, hæmatology, and skiagraphy have added much to the certainty of diagnosis. Notwithstanding these wonderful strides, our frequent failures at the bedside ought to make us modest and thankful for any new method or system of cure which promises to benefit mankind. We are as yet able, in our efforts to comprehend that which pertains to the essence of life, and the dissolution of human beings, which we call death, to penetrate little beyond structural appearance and functional phenomena. We can classify neither an idea nor an ambition, and much patient research remains yet to be made in the field of psychology. We are still groping our way in darkness in dealing with the great primeval and ultimate facts—the beginning and end of life. Haeckel and others have undertaken to solve the problem from the standpoint of materialism, but have dismally failed in their efforts to do so. In view of these limitations, can we afford to be narrow and dogmatic in our efforts to conserve life and assuage suffering?

The medicine of to-day needs, more than all else, men like Lyman Abbott, Phillips Brooks, and Archbishop Ireland to liberalize it. No sincere and educated physician belonging to any school should be ostracized because of his particular belief in therapeutics. The one standard should be that of knowledge, character, and professional conduct. The real sectarians in either religion or the sciences are the intolerant and the bigoted.

I believe with Richard Henry Savage that, "there is no man, no sect, no single school, which can in these broadening days of intelligence tie down the human hearts of the twentieth century to any bounden or grovelling belief."

"We have a debt," says Emerson, "to every great heart; to every fine genius; to those who have put life and fortune on the cast of an act of Justice; to those who have added new sciences; to those who have refined life by elegant pursuits." That debt was formally acknowledged by this Institute when, in 1899, it

adopted the following definition of a homœopathic physician :
"A homœopathic physician is one who adds to his knowledge of medicine a special knowledge of homœopathic therapeutics. All that pertains to the great field of medical learning is his, by tradition, by inheritance, by right."

EDITOR'S NOTES.

Sir William Muir.

We are sorry to learn that failing health has compelled Sir William Muir to resign the Principalship of the University of Edinburgh which appointment he held for 17 years. He was Lieutenant Governor of the N. W. Provinces and Financial Member of Viceroy's Council. He was the first to urge the necessity of establishing a Medical College at Allahabad.

Dr. Cunningham on Right-handedness and Left-brainedness.

The last Huxley memorial lecture of the Anthropological Institute of Great Britain and Ireland was on Righthandedness and Leftbrainedness. It was delivered by Dr. D. J. Cunningham, F.R.S., Professor of Anatomy in Trinity College, Dublin. The lecturer pointed out that this characteristic was one of vast antiquity, and went to show that it had been attained in the ordinary course of the evolution of man by natural selection. This condition, transmitted as it is from one individual to another, did not, he continued, reside in the right upper limb itself, or in the vessel which conveyed blood to it, but was due to a transmitted functional pre-eminence of the left brain. This pre-eminence was not a haphazard acquisition picked up during the life of the individual, but through evolution it had become the cause of righthandedness. The superiority of the left cerebral hemisphere rested upon some structural foundation transmitted from parent to offspring, and the exceptional cases of rightbrainedness and lefthandedness were due to the transference of this structural peculiarity from the left to the right side, or more probably to a transposition of the two cerebral hemispheres in the same way that transposition either partial or complete of the thoracic and abdominal viscera sometimes occurred. The lecturer received the Huxley Memorial Medal for his very interesting paper.—*Brit. Med. Journ.*, 25th Oct., 1902.

Increase of Intemperance among Women in England.

Among the many social changes which the nineteenth century

witnessed few have been more remarkable than the progressive enlightenment of public opinion on the subject of intemperance. A staggering inebriate is no longer said by admiring onlookers to be "as drunk as a lord," and such convivial sentiments as "For to-night we'll merry be, to-morrow we'll be sober," are nowadays seldom meant to be taken literally. What would the literary reviews now say of a poet boasting himself to be inspired by a Muse who—

"Round the bowl would dip and fly

Like a swallow round a Lake."

The vice, however, still flourishes on a vast scale though with a less degree of public encouragement and with less manifestation of noisy revelry than in the days of our forefathers, and medical men in all branches of practice are seldom without patients whose health has suffered from this cause. Temperance reformers have long been aware that the practice of secret drinking shows no falling off and is, if anything, rather on the increase, especially among women. Melancholy evidence to this effect was given at a conference of the Women's Union of the Church of England Temperance Society held at the Church House, Westminster, on Nov. 6th, under the presidency of Mrs. Creighton, widow of the late Bishop of London. Sir Thomas Barlow, dealing with the medical side of the question, said that female intemperance was apt to take the form of secret drinking and that the chief causes which led to it were lack of occupation, sorrow, anxiety, and the desire to obtain temporary relief from pain. Intemperance had a deplorable effect on the nervous system of women and was productive of obstinate chronic diseases. The Bishop of London expressed the opinion that intemperance in women was on the increase in both the upper and the lower classes of society. Factory girls even formed what were called "spirit clubs," into which the girls made small payments to accumulate until Christmas Eve and then to be spent in spirits, wine, and cakes. He had statistics to show that among the female inmates in one workhouse in the East of London nearly one half owed their downfall to drink.—*Lancet*, Nov. 15, 1902.

Use of Salt in diet and as Medicine.

That common salt is a necessary ingredient of a person's dietary is tacitly acknowledged in almost all countries and all ages, especially as it serves to produce good digestion. It is occasionally used as an emetic, and also as an anthelmintic, and is frequently injected into veins in cases of hemorrhage. Bathing in sea water acts as a mild general stimulant; and concentrated hot salt baths are sometimes

useful for chronic rheumatism and sciatica. It is also useful to inferior animals. The health and condition of pigs are improved by adding salt to their food ; and the same is said of horses that are fed on salted hay. Human flesh is said to contain more salt than the flesh of most inferior animals. Accordingly tigers which have once tasted human flesh, are very prone to kill human beings. That abstinence from salt tends to produce certain diseases, has also been occasionally observed. Cases of cholera in patients not much accustomed to take salt are known to have been cured by the use of common salt simply : and Dr. William O'Mill, M.D., M.R.C.P. London, of Lincoln, furnishes to the *British Medical Journal* of 11th October the case of a man who had a great abhorrence of salt, and who is said to have abstained from it almost altogether. This man says the Doctor "died a few years ago of cancer about the early age of 40." It is a pity that the doctor does not enter fully into the history of this man's case nor does he furnish his reasons for supposing "that the cancer of this foolish man was caused by his abstinence from salt." Whatever may be the connection between salt and cancer there can be little doubt that abstinence from salt leads to general weakness, œdema and anæmia, a series of symptoms that were often seen in France before the repeal of the salt tax. The necessity of common salt as food is thus explained by Bunge: Blood plasma contains much sodium chloride, and vegetable foods contain a large amount of potassium salts. When these salts of potassium reach the blood potassium chloride, and the sodium salt of the acid, which was combined with the potassium are formed. This and the potassium chloride are excreted by the kidneys, and the blood loses its sodium chloride. To make up for this loss, sodium chloride has to be taken with the food. (Hale White's *Materia Medica*, 7th edition). It may be added here that the opinion of Tavel that common salt is not only inhibitory to bacterial growth but works directly as a bactericide in the body has been contradicted by Baisch.

Dr. Sensai Nagayo.

We are indebted to the *British Medical Journal*, Nov. 15, 1902 for the following account of Dr. Sensai Nagayo, the father of sanitation in Japan. The doctor was born in 1839 in the Hizen Province of Japan, at Omura, where his father was physician to the local feudal lord. At 17 he went to Osaka, where for 4 years he learnt the Dutch language, as well as medicine, under Koan Agata, a well-known scholar of those days. He then visited Nagasaki, at that time the centre of medical education in Japan, and continued his studies under

Dutch physicians. He was afterwards appointed medical attendant to the Lord of Omura and held this place for several years. He next became Director of the Nagasaki Hospital and Medical school. About this time Japan was opened to foreigners, and all Japanese Doctors who had any knowledge of foreign languages went to Tokyo.

In 1871 Dr. Nagayo was appointed secretary to the Department of Education, and was sent to Europe and America to inspect the systems of sanitation used there. On his return to Japan next year he induced the Department of Education to establish the Medical Bureau, of which he was appointed Director. In the same year he was also made a Director of the Tokyo Medical School. He then engaged German teachers of every branch of medical science and a school built for them at Tokyo. The present medical college of Tokyo Imperial University owes its origin to him. In 1875 when the sanitary business of the Department of Education was transferred to the Home Office, Dr. Nagayo was appointed Secretary of that Department. At his suggestion the Sanitary Bureau was instituted, and he was made its Director. In 1876 he was again sent to America to inspect the system of sanitation which then obtained there. In the next year he was made a member of the senate, and also president of the Central Sanitary Board. In 1883 he founded the Private Hygienic Association of Japan, and worked hard for that Association for the next ten years. When the Genroin or senate was replaced by the House of Peers, Dr. Nagayo was elected a member of that House, and was created a Court Councillor. Recently his health began to fail, but his interest in every thing connected with medicine and surgery did not flag. He died some weeks ago at Tokyo at the age of sixty-four, and was buried in accordance with the Buddhist rites in the Aoyama cemetery. The very active and distinguished career of this great Japanese Doctor ought to be a lesson to the members of our Profession in this country.

Are Glass Drinking-Vessels Innocuous ?

It is well known that glass has now almost completely replaced metal, horn, and leather for the bottle or drinking-cup, although it is not so very long ago that the leather bottle and horn drinking-cup were extant. Whether this change could possibly have introduced any prejudice to the common health is an interesting matter for speculation. It is not true, though it is commonly supposed to be so, that glass is unattacked or completely undissolved by water and many other fluids in household use. On the contrary, the indelible marks which often appear on a water-bottle arise from the action of the

water upon the glass. Pure distilled water, showing neither an acid nor an alkaline reaction, which has been allowed to remain in a closed glass bottle for some time will gradually develop an alkaline reaction owing to the base of the mixed silicate of the glass dissolving in the water. At the same time a deposit of silica will generally be found at the bottom. This obviously shows a disassociation of constituents and the glass yields up its silica and its alkali to water. With acid fluids the same action may be observed and it is conceivable that with acid wines kept long in bottle some considerable action upon the glass may occur. Weak acid solutions cease to be acid after being kept in glass bottles for some time owing to the neutralisation of the acids by the alkali of the glass, and at the same time a flocculent and generally iridescent deposit is found in the bottle consisting of silica. This deposit is a constant source of trouble to druggists. Though the glass-dissolving power of most fluids in domestic use must be very small, yet considering that these fluids are continually in contact with glass, either in the bottle or the tumbler, there can be little doubt that traces of the constituents of glass are ingested. It has even been suggested that the practically universal use of glass in this way in the place of the old drinking vessels of wood or horn or of the glass bottle for the leather or skin vessel has contributed a means of rendering the vermiform appendix easily liable to an inflammatory process by the irritation set up by siliceous particles. This ingenious theory of the increased prevalence of appendicitis being due to the universal use of glass for drinking-vessels can hardly be seriously regarded when it is considered that silica is a frequent constituent of a number of foods. As is well known silica is the support of the wheat stalk as lime associated with phosphates is of the human frame.—*Lancet*, Oct. 18, 1902.

The Internal Secretion of the Testis in the Embryo and in the Adult.

Evidence seems to be accumulating that the several glands of the body besides their outward and apparent secretion also generate a secondary product which is absorbed into the blood and fulfils important purposes in the economy. A communication with the above heading recently appeared in the *Comptes Rendus de l'Académie Française* (No. 4, 1902, second semestre) by M. Gustav Loisel. M. Loisel has studied seven species of birds and four species of mammals. The sections were made from the testes of these animals, were hardened for eight days in a solution of osmic acid, and were then mounted in glycerine jelly. The embryo, it was found, already displays in the

germinal epithelium the same secretion that is present in the testis of the adult. This secretion presents itself in the form of black spherules contained in the body of many of the cells forming the epithelium. Treatment with either shows that they are not exclusively formed of fat but that they contain a basis of protoplasm. When the developing gland is in the embryonic condition usually regarded as "indifferent" they augment in number and are found particularly in the primordial ovules. As the organ becomes differentiated into a testis the seminiferous tubes present in their contents many black spherules, and a maximum having been reached, a diminution in their number takes place before birth, and M. Loisel believes that their role is to render more active the cellular metabolism of the embryo, and this is, in fact, their function when the secretion at the period of rut appears, for then the black spherules are formed in large numbers in the spermatogenic cells. Whilst spermatogenesis lasts the germinal cells situated at the base of the seminiferous epithelium preserve their character of secretory elements, they enlarge, and form the cells of Sertoli. In mammals these hypertrophied germinal cells, like the interstitial cells, still continue to elaborate fat, but in birds, at least in the sparrow, no fat is found in the summer. On the other hand, another form of isolated spherules appears in the cells of Sertoli, which, instead of turning black with hæmatoxylin containing iron, turns blue with potassium ferrocyanide. In the autumn in birds the testes become quiescent, the morphological secretion altogether ceases, the special epithelium of the springtime disappears, and the seminiferous tubes resume the form of solid cords. The chemical secretion on the contrary, persists in the germinal cells and though diminished in quantity resumes the power of reducing osmic acid. In conclusion M. Loisel is of opinion that the testis presents two distinct secretory functions—viz., a chemical or internal secretion which is primordial and is discharged into the blood and a morphological secretion which is secondary and is discharged externally. By its internal secretion the testis is a great destroyer of fat, which explains certain well-known facts—as the greater thinness of the male as compared with the female, the exaggeration of this condition during the period of rut, and the fattening and inertia which follow castration.—*Lancet*, Nov. 15, 1902.

CLINICAL RECORD.

Indian.

A CASE OF DISPUTED DIAGNOSIS.

BY DR. HEM CHANDRA RAY CHAUDHURI, L.M.S.

Bahu's wife, aged about 19, was seen by me on the 16th April 1901. She was then suffering from fever which had come on after a bath. The additional symptoms were pain in the body and loins. Before the attack of fever she frequently used *tioga gharis* for drive here and there. I administered Aco. 3x.

Next day when I called at the expressed desire of the family, I saw a medical man, a retired Deputy Superintendent of Vaccination, writing a prescription. I thought of coming away at once. But the patient's relatives insisted upon my visiting the patient which I could not refuse doing without being rude. At first I hesitated to pronounce any opinion on the prescription but was pressed for one, and therefore conscientiously I could not help observing that most probably the mixture and the application to the skin will prove deleterious. My colleague of the old school was of opinion that it was a case of suppressed small pox, whereas my view was that it was a severe type of measles. The eruptions were numerous mostly confined to the face. There was no seed-like feeling on pressure. They were small red spots, palpable to the touch, and coalescing with each other. The appearance presented by most of them was patch like, raised above the surface of the surrounding skin. It was clear that these eruptions were not of the ordinary type of measles commonly met with. Such kind of eruptions had been observed by me previously. It was necessary to differentiate the disease from small pox. There was not that dreadful backache which is generally considered characteristic of the invasion stage of small pox. If they were erythematous patches which sometime appear before the appearance of the eruption of small pox, the redness was not intense and did not disappear on pressure leaving a yellow stain. The absence of petechiae which accompany erythema in many cases of small pox was another sign, which prevented me from coming to the conclusion that it was a case of small pox. The eruptions remained as such without any visible manifestation of small pox eruptions afterwards. She remained in that state from the 17th April to the 22nd instant. The eruptions taken as a group had no red base as is generally observed in the confluent variety of small pox. The granulated feel was altogether absent. These eruptions appeared and gradually disappeared from the face. The rest

of the body was attacked in succession, commencing from the chest. On the body and on the legs they came on in a patch like form. Burning pain was never manifest at any time. Two pustules, more like ecthyma than any other form, appeared later on, one on the right thigh and another on the right hand. There was no central depression in them which could have roused the suspicion of small pox.

The fever commenced on the 15th April. On the 17th, it was 104°, in the morning and during the evening it went up to 105° F. On that day Bell. 30 was given. On the 18th, in the morning the temperature remained at 105, but in the evening declined to 104.4. Since then there was steady decline till the morning of the 22nd when it was 99. On the evening of the 16th as I have said the rash appeared on the face, and gradually came down to the legs. She was perfectly conscious almost all the while. Slight thickness of speech was observed on the 20th April, on the night of which day she rather spoke much of her complaints. I was satisfied on enquiry that they were not incoherent talkings. They were rather expressions of general dissatisfaction with those who were nursing her. Somnolency of a very mild type was observed. I prescribed Nux Mosch 6x on the 21st April. During the night she was in the same state. The morning temperature on the 22nd was 99. She could be roused by calling her once or twice in moderate tone. Having no benefit from Nux Mosch, I reverted to Bell. 30, which had proved so useful in lessening the fever. On the evening of the 22nd, the fever suddenly rose to 102, and the report came that difficulty of breathing had suddenly set in. The unhappy end was on the next morning, at about 8 A.M.

After this long lapse of time, I am of the same opinion as before. I have seen cases of suppressed small pox, one of which I had seen in a brother of a noted medical practitioner of the old school. I particularly observed the symptoms of this patient who was a class-friend of mine. There was no eruption of erythema but there were petechiæ. The fever was very high till the fatal termination. The look was rather wild and vacant, and the face was swollen. The thickness of speech was so great that it was generally unintelligible. Wild ravings attended the fever. The end came on with convulsion.

In the case under notice, the fever came down gradually to 99. When suddenly during the same evening, it was 102, and with it the difficulty of breathing appeared. In small pox, at the commencement of suppuration, the temperature rises. Here there was no suppuration, besides the two insignificant ecthymatous pustules. Then how are we to account for the sudden rise? I am inclin-

ed to believe that death was due to the retrocession of the eruptions to the brain, which produced the sudden onset of the difficulty of breathing. I have observed retrocession of erysipelas producing the same disastrous symptom.

Was it a confluent variety of small pox? Unless the variolar pustules appear at least moderately, so as to coalesce and form a mass, we cannot reasonably say that a case is of the confluent type of the disease. The peculiarity of the confluent type is that fever and other complaints never abate on the development of these eruptions. The face which is the seat of the confluent type, assumes a horribly swollen appearance.

These eruptions were not of the confluent type of small pox. They could not be discreet or malignant. They could not be the erythema, for as precursor of small pox, erythema never remain alone without bringing on variola. Then what these eruptions were? The inevitable conclusion is that they were those of rubeola of a very severe type.

Foreign.

CASES OF SCIATICA CURED BY TELLURIUM.

By JOHN M'LACHLAN, M.D., F.R.C.S.

CASE 1. More than a year ago a young woman (a dispensary patient) consulted me about sciatica of right leg. I believe I gave her rhus tox., but as that did not seem to do any good, she went to an allopathic hospital, where she was kept as an in-patient for three or four months. What "treatment" she was subjected to during this period, I do not know. In any case, not only was the sciatica as bad as ever, but was distinctly growing worse, and so she thought she would give homœopathy another "chance."

The sciatica was on the right side; the course of the great sciatic was tender to touch, and hurt her when she sat down—from the pressure of the chair. There was pain not only at the upper part of the thigh, but also at the outer side of the knee and at the ankle. There was a weak feeling in the hip, which she said was apt to give way. The upper part of the thigh feels as if tied or bound up tightly. It is very stiff after rest, and she is unable to lie on the painful side in bed, and the pains compel her to move about in bed in order to find a comfortable place. If she carries a pail of water or other heavy object, she must carry it in her right hand i.e., on the painful side, as carrying it in the left hand seems to increase the pain in the right hip. The pain is much aggravated by coughing, laughing, and when she lies on the painful side. When she laughs she must hold the painful thigh with both hands.

In the hurry of dispensary work several medicines at once suggested themselves. The restlessness, the marked stiffness after rest, and the tenderness on pressure seemed to suggest *rhus tox.* This remedy however, did no good. Again, the tightly-bound feeling seemed to suggest *celocynth*, with its stiff thigh, and sensation as if it were surrounded by an iron band, or screwed up tightly in a vice. But *coloc.* cases are usually better at night and from the warmth of the bed, and the patient usually lies on the affected side, and the left side is probably more frequently affected than the right. In any case *coloc.* was just as useful as *rhus*. *Rhus tox.* is usually said to be indicated when the *sheath* of the nerve or its bundles is affected, whereas *coloc.* is usually given in cases where the pain is severe and the nerve bundles, rather than their sheathings, is affected.

I tried one other medicine, viz. *arsenicum*, chiefly because it is strongly recommended for this affection by such men as Hughes, Bahr, and Jousset, and also because of the part it plays in the treatment of the "*neuroses*." "The arsenical neuralgia is *pure*, i.e., neither inflammatory, toxæmic, nor reflex." But I regret to say it was just as ineffectual as the other two. Various courses were now open to me for treating this annoying case. I might tell her that I had done my best and that I believed the case was incurable; or I might go on making "shots"; or begin at the beginning of our medicines and gradually work through them, so that in time by this means I might have reached tellurium—if the life and the stock of patience of both doctor and patient had been sufficiently prolonged. Or, again, I might lay aside all preconceived notions as to what might or might not be the *pathological* state of the nerve in question, as well as all speculations concerning the various "*neuroses*," and all thought of medicines that in the past have most often cured "*sciatica*." No doubt every well-equipped homœopathic physician *ought* to know all these matters, but what he *ought not* to do is to make any or all of them together a *basis of therapeutics*. That is the fatal error; not the possession of such knowledge, which everyone ought to feel himself in duty bound to acquire, but the attempt to force that knowledge to a purpose it is absolutely incapable of accomplishing. "Tools to the man who can use them": yes, but each tool has its own special work, and for this work it is specially constructed and for no other work.

We fell back therefore on the practical rules laid down by Hahnemann for the selection of the remedy. The characteristics of the drug must be similar to the characteristics of the case. "In making this comparison the more *prominent, uncommon and peculiar* features of the case are specially, and almost exclusively, considered and noted; for these in particular should bear the closest similitude to the symptoms of the desired medicine if that is to accomplish the cure." The reason for this rule is obvious: for the more *uncommon* and *peculiar* a symptom is, the less likely is it to be found under many medicines, and if we can find *three* uncommon and peculiar symptoms, it is almost certain that they can only be found together under *one* medicine—the *similimum*, or the *most* like, as there can of necessity only be *one* *similimum*.

In the present case the *uncommon* and *peculiar* symptoms appear to be found among the aggravating circumstances. Thus :

Pain in the region of the great sciatic nerve,

Aggravated by coughing, caps., Sep., tel. :

Aggravated by laughing, tel. ;

Aggravated by lying on the painful side, dros., kalc., kali iod., lyto., sep., tel.

All *three* aggravations, therefore, are found under tellurium alone. This medicine was given in the 6x trituration, and was followed by an immediate and permanent improvement ; it was given in frequent doses at first, and then only in occasional doses.

There is another symptom often present in tel. cases, but which was not present in my case, viz., aggravation from straining at stool, a symptom which is found under nux v., as well as tel.

Another symptom of tel. in cases of sciatica is contraction of tendons *in the bend of the knees* ; in my case a similar sensation was found *in the upper part of the thigh* instead of in the bend of the knees. In most recorded cures, too, "rheumatic" pains in the small of the back usually precede the onset of sciatica, in cases where tel. is likely to be useful.

Pains *in the hip generally*, when coughing, are most likely to be helped by such medicines as ars., bell., caust., rhus tox., and sulph.

CASE 2. Another and more recent case shows even more typically the kind of "sciatica" likely to be benefited by tellurium. In this case it was a hale and hearty woman beyond the "three score years and ten" ; it affected the *left* side. It began with lumbago-like pains in the lumbar region, and finally settled in the left sciatic nerve, which was very tender to touch and pressure ; the pains darted through into the left iliac region. There was great aggravation on sneezing, coughing, and lying on the affected side ; also on stooping, rising from a sitting posture, straining at stool, and when the bladder was full. The hip-joint seemed to give way on attempting to walk. In this case also I had tried the usual remedies, such as rhus, coloc., ars., etc., with little or no benefit ; but tell. 6x gave prompt relief. After a few doses she could move in bed without screaming, and in the course of a few hours she was able, though with some difficulty, to get out of bed. The following day, or night rather, her urine had a horribly foul odour, so bad indeed that her husband was unable to have it in the room. The progress has been steady and sure, and though the pain is not quite gone yet, she writes to say that she is so much better that I need not call again.—*The Monthly Homaopathic Review*, Sept. 1. 1902.

Gleanings from Contemporary Literature.

THE HARVEIAN ORATION ON THE HEART AND NERVOUS SYSTEM.

Delivered before the Royal College of Physicians on October 18th, 1902.

BY DAVID FERRIER, M.D., LL.D., F.R.S.,

Fellow of the College; Professor of Neuropathology, King's College;
Physician to King's College Hospital and the National
Hospital for the Paralysed and Epileptic.

THE KING'S RECOVERY.

MR. PRESIDENT AND GENTLEMEN,—I am certain I am but truthfully expressing the feelings of this important assemblage of the College of Physicians when I say that we one and all rejoice that our most exalted Fellow, His Gracious Majesty King Edward, has been happily restored to health and anointed King over a loyal and united nation—united as it has never been before in the history of our race. Our Sovereign owes much to the medical profession, for twice at least he has been rescued from imminent peril by the skill and devotion of our brethren. His Majesty has been singularly fortunate in having had on both of these occasions as officers of his medical body guard the greatest living experts in the class of diseases by which he was assailed; and it is to us a legitimate source of satisfaction that our art has made such progress within the memories of us all as to have rendered it possible, in circumstances formerly almost hopeless, to save a life so precious to his subjects.

If the King owes much to the medical profession, we on the other hand, gladly acknowledge the deep debt of gratitude which he has earned at our hands. He has at all times exhibited a sympathetic interest in our work, our needs and aspirations, and in particular by the magnificent endowment which he has secured to the metropolitan hospitals, he has done much to promote the cause of medical education and the welfare of his people. The illustrious Harvey, whose name on this day of St. Luke we are met to honour, was also fortunate in having in King Charles a Sovereign keenly interested in scientific progress, who provided his trusted physician with many facilities for his observations and experiments, and often in person attended his demonstrations. It was to the King that Harvey dedicated his immortal treatise, *De Motu Cordis*, in poetical terms of comparison between the heart and body, and the Sovereign and body-politic—"The heart of animals is the foundation of their life, the sovereign of everything within them, the sun of their microcosm, that upon which all depends, from which all power proceeds."

THE CIRCULATION AND THE NERVOUS SYSTEM.

It would be as difficult to understand vital phenomena, the conditions of health and disease, apart from the circulation of the blood, as it would be to explain the movements of the heavenly bodies without the law of gravitation. Harvey, as has been truly said, is the Newton of physiology. His *Exercitatio* is such a complete and closely reasoned proof of the circulation, that in the 274 years that have elapsed since its publication, nothing of material consequence has been added to the cogency of his arguments; and his demonstration of the movement of the blood in a circle is a model of exposition which cannot be surpassed by any lecturer on physiology at the present day. Harvey's work deals essentially with the mechanics of the circulation, and in this he practically reached finality. But he naturally pondered over many cognate problems which have continued to exercise physiologists and psychologists to the latest times. It was evidently his

intention to deal with these in a separate treatise, for, among other things in his second letter to Riolan, he says :

We also observe the signal influence of the affections of the mind when a timid person is bled and happens to faint. Immediately the flow of blood is arrested, a deadly pallor overspreads the surface, the limbs stiffen, the ears sing, the eyes are dazzled or blinded. . . . And what indeed is more deserving of attention than the fact that in almost every affection, appetite, hope, or fear, our body suffers, the countenance changes, and the blood appears to course hither and thither. . . . But here I come upon a field where I might roam freely and give myself up to speculation. And indeed such a flood of light and truth breaks in upon me, occasion offers of explaining so many problems of resolving so many doubts . . . that the subjects seem almost to demand a separate treatise. And it will be my business in my Medical Observations to lay before my readers matter upon all these topics which shall be worthy of the gravest consideration.—Harvey's *Works*, by Willis, p. 129—slightly transposed.

Harvey's speculations on these and kindred subjects, if his medical observations had come down to us, would have been of exceptional interest, though we cannot doubt that in the light of modern research they would have appeared but inchoate, as our own will doubtless so seem to those who come as many years after us as we are from Harvey. For the language of the physiologist is but a reflex of the state of knowledge of his day, and the explanations do not transcend those of the sciences on which his own is based.

In his exposition of vital phenomena Harvey shows himself still trammelled and unable altogether to emancipate himself from the notions of Aristotle and Galen. He speaks, like Galen, of the heart as being an "elaboratory fountain, and perennial focus of heat" (second epistle to Riolan), not, however, in virtue of its proper substance, but because of its contained blood. Though he scouts the idea of the *calidum innatum* as transcending the qualities inherent in the living heart and blood, or attributable to anything "of a sublime, lucid, ethereal, celestial, or divine nature," he naturally, in the then state of scientific knowledge, failed to master the problem of the source of animal heat. This was only possible more than two hundred years after his time by the discoveries of Black, Priestley, Lavoisier, and others on the nature of combustion, and by the researches of modern physiologists on the metabolism of the tissues and the foci of heat production in the body. We now know that there is no more innate heat in the heart than is evolved by its own intrinsic muscular contractions.

* Neurology in Harvey's time consisted largely in speculations as to the seat of the rational soul, and the mode of generation and distribution of the animal spirits to the various organs of the body. Little or nothing was known of the relations of the heart to the nervous system. Harvey had, however, some obscure conceptions as to the difference between "natural" and animal motion. He says :

There are some actions and motions the government of direction of which is not dependent on the brain, and which are therefore called "natural.".....Many animals are endowed with both sense and motion without having a common sensorium or brain, such as earthworms, caterpillars of various kinds, chrysalides, etc. So also do certain natural action take place in the embryo, and even in ourselves, without the agency of the brain.

But he looked upon all these "natural," visceral, or reflex actions as proceeding from the power of the heart and dependent on it, while the animal motions alone necessitated the controlling influence of the brain.

During Harvey's lifetime, however, Thomas Willis was laying the foundation of a more exact neuro-physiology. His work on the descriptive anatomy of the brain, the arrangements of the blood vessels, the distribution

of the cranial nerves, and the relations of the vagus and intercostal, or sympathetic nerves to the thoracic and abdominal Viscera contains much of enduring value. Amid much fanciful speculation as to the functions of the different parts of the brain and the nature of the animal spirits, he came near formulating a true conception of the nature of reflex action; and in particular he clearly differentiated between the nerve centres governing the viscera from those which regulate the functions of animal life. He regarded the cerebellum as the centre of the visceral functions—a view which he was led to adopt mainly by the anatomical connexions which he thought he could trace between this organ and the vagal and sympathetic nerves.

When some time past I diligently and seriously meditated on the office of the cerebel, and revolved in my mind several things concerning it at length from analogy and frequent ratiocination, this (as I think) true and genuine use of it occurred: to wit, that the cerebel is a peculiar fountain of animal spirits designed for some work, and wholly distinct from the brain. The office of the cerebel seems to be for the animal spirits to supply some nerves by which involuntary actions (such as are the beating of the heart, easie respiration, the concoction of the aliment, the protrusion of the chyle, and many others) which are made after a constant manner unknown to us, or whether we will or no, are performed.

VISCERAL NERVES.

Willis, as we know, was wrong as to his localization, but in this and other passages he not obscurely foreshadowed the distinction between his splanchnic and somatic systems of nerves, rendered more precise in recent years. Harvey knew that the heart of a cold-blooded animal would continue to beat when removed from the body, and even when cut to pieces, each portion continuing to execute its own rhythmical contractions. Though he does not specially discuss the cause of the heart beat, yet one may gather from many passages in his writings that he considered the heart to be endowed with an inherent activity of its own independently of the brain and nervous system. The discovery in more modern times of the ganglia in the substance of the heart by Remak, Bidder, and Ludwig naturally led to the belief that its contractions are conditioned by rhythmical stimuli proceeding from these intracardiac centres, just as the somatic muscles are normally excited to action by stimuli conveyed from the brain and spinal cord.

Though, perhaps, the last word has not been said on this much-debated question, the balance of evidence, largely furnished by the ingenious and skilfully-devised experiments of Gaskell, is in favour of the view that the beat of the heart is due to an intrinsic rhythmical contractile power of the cardiac muscle, possessed, by all parts in greater or lesser degree, but most marked in the venous sinus and auricle, whence a wave of contraction is propagated through the heart leading the sequence, and setting the pace to the other chambers. For this point of view the cardiac ganglia are merely peripheral ganglia of the efferent visceral fibres of the vagus, analogous to those of the visceral system of nerves in general.

The heart, however, in its normal relations is not a mere mechanical pump automatically working so many times a minute, and turning out so many gallons of blood per diem in steady and regular flow. The needs of the organism are ever changing, and the heart and vascular system are ever adapting themselves in accordance therewith. There is scarcely an act or thought or feeling which does not reflect itself in the rate of the heart and state of the pulse. The explanation of these variations is to be sought for in the relations which subsist between the central nervous system and the heart and blood vessels. Though to the physiologist this is a well-worn theme, I trust that in my endeavour to bring into line the

various conditions, physical and mental, which influence the circulation, it will not be considered unworthy of my learned audience if I sketch the principal facts and stages in the development of our knowledge of this subject.

The heart and blood vessels, together with the walls of the hollow viscera, glands, and non-striated muscles of the hair bulbs, as well as certain striated muscles derived from the lateral plates of the mesoblast, are innervated by the great system of visceral or splanchnic nerves, the differentiation of which from the somatic, or those which supply the organs and muscles of animal life, is the distinguished merit of Gaskell. And it is gratifying to think that also to other countrymen of Harvey, notably Langley, we owe in large measure what is known respecting the distribution of the ultimate ramifications of this great system of nerves.

The visceral nerves consist of two sets possessed of opposite functions—namely, motor and inhibitory—terms which are applicable to their action on the heart, blood vessels, and hollow viscera.

THE INNERVATION OF THE HEART.

The most epoch-making discovery in reference to the innervation of the heart was the observation of the brothers Ernst and Edward Weber in 1845 that electrical irritation of the vagus caused the heart to beat more slowly, or to stop altogether for a time in a state of diastole. This fact was an altogether new one in neurology, and has been far-reaching in its consequences and applications.

Through the vagi the cardiac centres exercise a more or less constant restraining influence, so that when they are cut the heart beats more quickly. This effect was observed both by Willis and Richard Lower, but both regarded it as essentially of a parietic nature, due to cutting off the main stream of animal spirits. Willis says :

And here it may be rightly inquired into whether the pulse of the heart so necessarily depends on the influence of the animal spirits through the nerves, that, it being hindered, the action of the heart should wholly cease ? For the decision of this we once made a trial of the following experiment on a living dog. The skin about the throat being cut longways, and the trunk of both the wandering pair being separated apart, we made a very strict ligature which, being done, the dog was presently silent and seemed stunned, with a great trembling of the heart (*Anatomy of the Brain*, chap. xxiv.)

Willis imagined that the sympathetic fibres of the cardiac plexus were able by a kind of anastomosis to supply the animal spirits after the vagi were divided. The totally different function of the sympathetic was first demonstrated in 1866 by von Bezold, who found that stimulation of the filaments proceeding from the ganglion stellatum, derived, as has been proved by subsequent researches, from the upper thoracic anterior roots—caused effects entirely antagonistic to those of the vagus—acceleration of the rhythm and increased force of the cardiac contractions.

The visceral system also contains sensory or afferent fibres, which are the medium of communication between the viscera and the sensorium, but the mode of origin, course, and termination of these nerves are less accurately known than those of the efferent class.

The heart, like the viscera, is in normal conditions but poorly endowed with sensibility, and is barely, if at all, sensitive to tactile stimuli. This fact was first demonstrated by Harvey in the case of the son of Viscount Montgomery, whose heart had been exposed by destructive ulceration of the chest wall in the precordial region. This interesting patient was brought under Harvey's notice by King Charles himself. Harvey relates :

I carried the young man himself to the King that His Majesty might with his own eyes behold this wonderful case : that in a man alive and well he might without detriment to the individual observe the movement of the

heart, and with his proper hand even touch the ventricles as they contracted; and His Most Excellent Majesty, as well as myself, acknowledged that the heart was without the sense of touch, for the young man never knew when we touched his heart, except by the sight or the sensation he had through the external integument.

The heart, however, is sensitive to severer forms of stimuli, and more particularly to states of abnormal tension. It is as Budge found most sensitive towards the base, and less so towards the apex. It is generally stated in textbooks of physiology that the vagus is the sensory nerve of the heart. This, however, though apparently the case in frogs in which the vagus and sympathetic nerves run throughout in the same sheath, is not the whole truth as regards man or even mammals in general; for after section of both vagi in a cat, Goltz found that pinching or otherwise irritating the heart caused reflex movements of the whole body.

Though, as has been already remarked, the afferent fibres of the visceral system have not been experimentally determined with the same precision as the efferent, there are many reasons for believing that they are connected with the same spinal segments. This is borne out by Head's brilliant work on the relations between visceral disease and cutaneous pain. Pursuing Ross's hypothesis, that the viscera receive their sensory fibres from the same segments of the spinal cord as those from which the somatic sensory roots arise along which the pain is referred, he has succeeded in mapping out with marvellous definition the segmental relations of the sensory nerves of the various viscera. From this it appears that painful conditions of the heart refer not only into the regions connected with the vagi, but also into those of the upper dorsal segments whence the heart also receives its chief motor supply. The sensory nerves of the heart therefore lie not only in the vagus, but also in the rami communicantes of the upper dorsal nerves. What is the respective origin of these nerves in the heart is not as yet certain, but the recent investigations of Koster indicate that the depressor nerve, the afferent nerve of the heart *par excellence*, is in reality the sensory nerve of the aorta and not of the heart itself.

The centres both of the cardiac inhibitors and accelerators and augmentors are situated in the medulla oblongata—not in the cerebellum, as Willis supposed—the former in the vagal nucleus, where a pin-prick will arrest the heart, the latter in a point not yet accurately determined. These cardiac centres are in a more or less continuous state of so-called automatic activity, which is capable of being directly exalted, depressed, or otherwise modified by impulses proceeding from the heart itself and blood vessels, from the somatic and splanchnic periphery, as well as from the higher regions of thought and feeling.

VOLUNTARY CONTROL OVER THE HEART.

We have as a rule no direct voluntary control over the heart's action—perhaps a wise provision of Nature against the temptation to try foolish and dangerous experiments. Cases, however, are on record in which, apparently by voluntary effort, the action of the heart has been inhibited or rendered almost imperceptible. The best authenticated instance of this kind is that of Colonel Townsend, who was able at will to throw himself into such a state of suspended animation that his heart and breathing ceased to be appreciable by ordinary tests. More wonderful things have been related of the Indian faketers. We do not as yet know the real mechanism of this voluntary hybernation, but Ed. Weber proved on himself that the action of the heart can be reduced *ad deliquium animi* by voluntary compression of the chest and forcible expiration with the glottis closed. This exerts such pressure on the great veins as to completely obstruct the flow of blood through the heart and cause it to stop for several beats.

Some of the cases of apparently direct voluntary control over the heart's action may be therefore accounted for through the medium of the respiratory mechanism, but there are others in which the rate of the heart has been capable of acceleration at will independently of the respiration and without calling up special ideas. In all such instances there has been also unusual power over the voluntary muscles.

VASOMOTOR NERVES AND CENTRES.

Like the heart, the calibre of the blood vessels is regulated by mutually antagonistic sets of nerves—the vaso-constrictors (vasomotor) and the vaso-dilators (vaso-inhibitory). That the lumen of the blood vessels was subject to variation under the influence of the nervous system was postulated long before it was actually demonstrated. The credit of this provision has been assigned to various writers. Harvey, as we have seen, intended to discuss the subject in his *Medical observations*. The philosopher Malebranche is said to have propounded a vasomotor theory of emotional expression according to which the flow of vital spirits to the brain and the organs was regulated by a special system of nerves. But Willis appears to have first actually demonstrated the nerves of the blood vessels, and to have indicated their true function. For he describes nerves from the cardiac and abdominal plexuses as accompanying the blood vessels which he graphically likens to twigs of ivy embracing and surrounding their trunks and branches. Of their function, in speaking of the solar plexus, he says >

That from this plexus many fibres and shoots going forth are inserted into the trunk of the aorta nigh its descending, and that these reaching towards the intestines accompany the blood-carrying vessels, and in several places climb over them; from hence it may be inferred that nerves also in the abdomen are like bridles and reins cast on the sanguiferous vessels, which either by straining or pulling them together, may sometimes retard, sometimes incite the course of the blood according to the needs of the lower viscera. (Chap. xxvii, p. 188.)

The tightening or relaxation of the grip of the vasomotor nerves on the blood vessels imagined by Willis was shown, by the discovery of Heule in 1840 of the muscular nature of the middle coat of the arteries, to be a contraction or relaxation of the walls of the blood vessels themselves. But the actual proof of the action of the vasomotor nerves was first given in 1851 by Claude Bernard in the well-known dilatation of the vessels of the rabbit's ear on section of the cervical sympathetic, followed almost immediately by the demonstration of the converse results on electrical stimulation of the distal end of the cut nerve by Bernard himself, Brown-Sequard, and Waller. Similar phenomena were speedily proved to obtain in reference to the vessels of the abdomen, the limbs, and most of the organs of the body.

The blood vessels are normally in state of tone or semi-contraction, which is kept up mainly by the nervous system. The centre which governs the calibre of the blood vessels is situated in the pons medulla, probably is the group of cells known as the antero-lateral nucleus, the homologue of the cells of the intermedio-lateral tract of the spinal cord (Gaskell). Hence on section of the cord below this point there is extensive vaso-dilatation, and an enormous fall in the blood pressure. But though this is the chief centre of vaso-motor regulation, there is evidence that there are also subsidiary centres in the cord itself. For after section below the medulla oblongata the vessels after a time regain a considerable amount of tone, and reflex alterations in their calibre can be elicited by appropriate stimuli. The blood vessels also possess an intrinsic activity similar to that of the heart itself, and exhibit slow rhythmical variations in calibre, and the recent experiments of Bayliss prove that they respond to mechanical variations in internal pressure, constricting or relaxing with a rise or fall respectively.

The antagonistic nerves, the vaso-dilators, the homologues of the cardiac inhibitors, indicated by Schiff, were first clearly demonstrated by Bernard in 1858 in the chorda tympani.

Bernard's discovery of the vaso-dilators of the chorda tympani was followed in 1863 by that of Eckhard of the vaso-dilator action of the *nervi erigentes*, and the existence of a special set of vaso-dilators running in separate channels from the constrictors was thus conclusively established.

Subsequent researches have shown that vaso-dilators exist also in other nerves which at first sight appear to contain only vaso-constrictors. Their presence, however, is only marked by the greater number and greater excitability of the constrictors; but when special methods of stimulation are employed the action of the vaso-dilators is made clearly manifest.

All the organs supplied with vaso-constrictors are furnished also with vaso-dilators, but the proportion differs, and in some organs, such as the brain and lungs, it is still a question whether there are any vasomotor nerves at all.

In reference to the lungs, in which Bradford and Doan, as well as Francois Franck, claim to have demonstrated the existence of vasomotor nerves, the recent experiments of Brodie and Dixon are of special importance and significance. They found that no change in the calibre of the pulmonary arterioles could be produced by direct stimulation of any of the fibres proceeding to or emanating from the stellate ganglion. Further, when the lungs were perfused with blood containing suprarenal extract which, as has been shown by Schäfer and Oliver, usually causes constriction of the blood vessels, no such results occurred in pulmonary blood vessels but rather the reverse. This led to the discovery that when the arterioles of organs, otherwise occluded by suprarenal extract, have had their vasomotor nerves previously paralysed by apocodeine or cocaine, perfusion with suprarenal extract causes dilatation instead of constriction. That this result is not due to paralysis of the muscles of the arterioles is proved by perfusion with chloride of barium, which causes intense constriction and complete stoppage of the out-flow. These experiments show, therefore, that suprarenal extract acts by stimulating the nerve-endings of vaso-constrictor nerves, and that there is no evidence of such in the pulmonary blood vessels.

Generally it may be said that those organs in which it is necessary for occasional purposes to have an active flow of blood, such as the salivary glands, kidney, and generative organs, are specially provided with vaso-dilators which sometimes run in separate channels.

The centres of the vaso-dilator nerves have not been determined with the same precision as those of the constrictors. It is probable that they are related to the segments of the cord from which they respectively arise. This, at least, is true of the *nervi erigentes*, for when the cord is divided above their origin their function can be reflexly excited or inhibited just as in normal conditions. (Goltz.)

Vaso-dilatation is not however, always an active effect, but sometimes only a cessation of normal tone; and there is one nerve the action of which is always vaso-dilatation. This—the depressor—discovered by Ludwig and Cyon in 1866, plays a very important part in the regulation of the circulation. It is one of the afferent or sensory nerves of the heart, arising either in the heart itself, or according to the researches of Koster—mentioned above—at the base of the aorta. Stimulation of this nerve, arising normally from states of tension, inhibits the action of the vasomotor centre and causes intense dilatation, more particularly of the abdominal system of blood vessels.

THE FUNCTION OF THE CARDIAC AND VASOMOTOR NERVE MECHANISM.

It is by the interdependence of the cardiac and vasomotor nerve

mechanisms and the manifold entoperipheral and epiperipheral stimuli by which they are influenced that the heart is protected from undue strain, that great and prolonged variations in the differential pressure between the arteries and veins are obviated or compensated, and that each organ obtains its due measure of blood in accordance with the calls made upon it. We cannot doubt that the cardiac and vascular reflexes are essentially of a protective nature like reflex actions in general. But though the teleological significance of many of these is obvious, the usefulness of others is still involved in obscurity. We can readily understand why, as Marey has beautifully demonstrated, the heart should be inhibited when the resistance in front is too great for it to contend with safety; and why under similar conditions impulses should be conveyed by the depressor nerve, which diminish the resistance by dilating the great vascular area of the abdomen. In this we have an instance of the protective action of the vascular and cardiac reflexes on the heart itself.

On the other hand, the vagus may be called into play with the view of protecting other organs, especially the brain, from undue pressure and congestion. Great rise of intracranial pressure causes slowing of the heart. This is brought about by action on the medulla itself, for, as Franck has shown, when the brain is isolated from the rest of the body with the exception of one vagus, injection of blood into the carotid causes the heart to beat faster or slower according to the degree of pressure exerted. And it has been argued by Roy and Adami that in this we have a protective against cerebral congestion inasmuch as the slowing of the heart from increased intracranial tension is brought about by direct action on the medullary centres and not from within the heart itself. The protective mechanism of cardiac acceleration is exemplified in the increased rapidity of the heart which is excited by conditions which tend to lower the pressure in the bulbar centres, such as change from the horizontal to the vertical posture, and under all conditions which lead to dilatation of any large vascular area.

All organs in a state of activity are able either by local action on the blood vessels or by reflex vaso-dilatation to secure an increased flow of blood. If the vascular area thus dilated is all extensive the lowering of blood pressure which would be thus induced is counteracted by greater rapidity of the heart and constriction of the vessels in other regions. Thus dilatation of the abdominal vessels during the act of digestion is accompanied by the proverbial coldness of the skin, and the constricted vessels and cold feet of active brain work are familiar to us all.

These instances of the obviously protective action of the cardiac and vascular reflexes might be multiplied indefinitely, but there are many others, the significance of which is not so apparent. Among these may be mentioned the reflex inhibition of the heart, which is so easily excited by irritation of air passages (Dogiel, Holmgren), and lungs.

There is little reason to doubt, however, that like the similar inhibition of the respiration from irritation of the interior of the heart, they play an important part in the mutual regulation of the intimately interdependent functions of the circulation and respiration. The cardiac, vasomotor, and respiratory centres are all closely inter-related to each other. Of these, the respiratory is most readily influenced both from the periphery and the higher centres, and it is not improbable that many of the variations in cardiac rhythm and vascular tone so induced are in reality conditioned only mediately through the respiration. With the exception of the depressor, and the nerves of the air passages and lungs, moderate stimulation of perhaps all other sensory nerves general and special usually causes constriction of the blood vessels, with a rise of blood pressure and acceleration of the heart. This, however, is a rule liable to many exceptions, the conditions of which are not as yet satisfactorily determined.

In states of exhaustion, and when the stimulation is of a sudden or intense character, more particularly when of visceral origin, there is a fall in blood pressure, and reflex inhibition of the heart, which in certain conditions may be fatal. As an instance of this kind, one may quote Goltz's famous *Klopfversuch* by which it is shown that a smart tap on the abdomen of the frog causes stoppage of the heart and dilatation of the splanchnic blood vessels. The vascular dilatation so induced is so enormous that practically the whole of the blood in the body is accumulated in the abdomen, and the animal dies by haemorrhage into its own veins. The heart may continue to beat, but to no purpose: its cavities are empty, and no blood passes through it. It is, in all probability, to vasomotor paralysis of this nature that the symptoms of surgical shock are due, as has been ably maintained by Lauder Brunton, Crile, and others. In this relation, also, the recent researches of Embley, on the cause of death from chloroform, are deserving of the most attentive consideration. In the early stages of chloroform inhalation the heart is weakened and more susceptible to the influence of the vagus. The inhibitory mechanism is also more excitable, so that there is thus a twofold risk of permanent inhibition of the heart, especially when the blood pressure is greatly reduced. Fortunately, in profounder anaesthesia, the cardiac reflexes are almost abolished, so that in addition to its beneficent action in annulling pain, chloroform minimizes the otherwise dangerous, or even fatal, depression that might result from severe surgical procedure. Most if not all the cardiac and vascular reflexes are capable of being elicited through the medullary centres alone, and they can be obtained with great facility, as Brodie and I have found, in decerebrate animals.

THE CEREBRAL CIRCULATION.

The cardiac and vascular reflexes have an especial bearing on the circulation on the brain. The cerebral circulation has many features of an exceptional character. The doctrine propounded by Monro Secundus, supported by Kellie and Abercrombie, and most ably maintained at the present day by Leonard Hill is that, as the cranium is a closed cavity and the brain substance incompressible, the quantity of blood within the skull must practically be at all times the same—the blood flowing out of the veins to make room for that flowing in by the arteries—those conditions only being excepted in which fluid or other matter is effused or secreted by the blood vessels, for in such circumstances a quantity of blood equal in bulk to the effused matter will be pressed out of the cranial cavity. It has been argued in opposition to this doctrine that the free ebb and flow of the cerebro-spinal fluid between the cerebral and spinal cavities must allow of considerable variation in the volume of blood in the cranium, but under normal conditions the amount of this fluid is so small as to be practically a negligible quantity.

The variations in blood supply extend for the most part only to the relative proportion between the arterial and venous. The brain fills the cranial cavity like a hand in a glove, and is closely appressed to the interior of the skullcap. The pressure exerted from within outwards varies greatly—directly with the venous, and only proportionately with the arterial pressure. It is increased with each pulsation of the heart, and with each expiration if at all forcible. The average is about 100 mm. H_2O , but the pressure is of importance purely in its bearing on the circulation. The functions of the brain cease if the arterial pressure is too low to cause an effective flow through the capillaries, or if the venous pressure is too high to permit of the arteries emptying themselves. In either case the circulation in the brain fails, and loss of consciousness ensues. The brain tissue, however, as such can carry on its functions at any pressure from zero up to 50 mm. of Hg or more. Thus in a patient who had been trephined, and the brain therefore exposed to atmospheric pressure, Hill found that the

intracranial pressure fell slightly below zero when he stood upright ; and in a case of strychnine convulsions the pressure was estimated at 50 mm. mercury, and yet both patients retained their mental faculties unimpaired.

Up to the present no satisfactory experimental evidence has been furnished as to the existence of vaso-constrictors or vaso-dilators of the cerebral blood vessels. Gulland, however, and Morison have both within the last few years demonstrated the presence of nerve plexuses on the vessels of the pia mater, in all respects like those of vasomotor nerves elsewhere. Yet no active change in the calibre of the cerebral blood vessels can be produced by stimulation of the cervical sympathetic or stellate ganglion—practically the whole of the sympathetic supply to the carotid and vertebral arteries—or even, according to Hill, of the central end of the cut spinal cord or the vasomotor centre itself. The opposite results obtained by Nothnagel, Cavazzani, and others, are attributable to defective methods of experiment, which do not differentiate between active and passive variations in the calibre of the vessels, or exclude changes due to mere atmospheric exposure. This negation of vasomotor regulation of the cerebral blood vessels seems to be in flagrant contradiction with the positive demonstration of nerves accompanying the vessels of the pia mater, as well as with other facts, such as the apparently independent variations of the plethysmographic volume records described by Mosso, and we can scarcely doubt that there must be some intrinsic mechanism which can secure a greater flush of blood in one part as compared with another in an organ in which there is proved localization of function. Roy and Sherrington believed they had discovered such a mechanism in the products of cerebral metabolism dissolved in the lymph which bathes the cerebral arterioles—products capable of inducing variation in the calibre of the blood vessels in correspondence with local variations in functional activity. This, however, has been contested by Hill.

Brodie and I have, however, succeeded in rendering it more than probable that cerebral blood vessels are under the influence of vasomotor nerves, though so far we have not been able to determine their origin and course.

As already mentioned, perfusion with suprarenal extract of an organ supplied with vasomotor nerves causes constriction of the arterioles, so that the flow through the capillaries is diminished or altogether stopped. It was found by Biedl and Reiner that injection of suprarenal extract into the carotid of living dogs caused a rise of blood pressure in the circle of Willis, and diminution of the outflow from one of the lateral sinuses, a result which might be attributed to the action of adrenalin on the terminals of cerebral vasomotor nerves. But the conclusion is not free from fallacy, owing to the non-determination of the conditions affecting the outflow from the other sinus. This fallacy, however, is eliminated by Brodie's method.

By the injection of adrenalin into the basilar artery of the carefully-removed brain, and measurement of the outflow from the torn sinuses, he found that with moderate amount there was distinct diminution of the outflow and complete stoppage when the dose of the extract was increased. This appears to afford satisfactory proof of the existence of cerebral vaso-constrictors, though as compared with other organs their influence is relatively slight, and there seems therefore no further reason for doubting the existence of some intrinsic vasomotor regulation of the cerebral circulation.

The cerebral circulation, however, varies for the most part only passively with the circulation as a whole. The blood is so disposed in the body that it may be temporarily diverted from one region in order to secure a richer supply to another which requires it.

It has been calculated that when the body is at rest the thoracic and abdominal organs contain 60 to 70 of the whole blood. In the state of

activity this percentage is reversed. Thus Ranke estimates that in the state of rest the neuromuscular apparatus contains on the average only about 36 per cent. of the blood while in the state of activity the percentage is nearly doubled. The rapidity of the circulation in the brain in a state of activity is greater than in the state of quiescence or sleep. This is brought about by the constriction of the splanchnic and cutaneous blood vessels through the agency of the vasomotor centre. In illustration of this an ingenious apparatus has been devised by Mosso. When a person lies flat on a couch swinging on a horizontal axis, with the head and feet accurately counterpoised, the head goes down when the brain is at work. On the other hand, the feet sink when the individual falls asleep, indicating that the blood has returned to the extremities. In tranquil sleep a sound or any kind of sensory stimulus suffices to reverse the position of the head and feet, and that, too, when the stimulus has not been sufficient to cause the sleeper to awake or retain any knowledge of the event. Every sensory stimulus of moderate intensity has the effect of raising the blood pressure by constriction of the cutaneous and splanchnic areas. We may see in this a protective mechanism whereby impressions on the organs of sense not only awaken perception, but provide the centres and apparatus of thought and volition with the means of energizing in accordance with the needs of the occasion. The sensory nerves therefore and vasomotor centre act, in the figurative language of Mosso, as "sentinels on the defensive, watching continuously, and sounding the alarm when danger is nigh."

The circulation in the brain is largely dependent on the tone maintained by the vasomotor centre. Conditions which materially lower the vascular tone—such as prostrating diseases, certain toxic agents and the like—tend to induce cerebral anaemia and impairment of energy, especially in the upright posture; for, though under normal conditions the influence of gravity is not appreciably felt, it becomes very apparent when the vascular tone is defective. Hence in such conditions syncope readily occurs when the individual is suddenly raised from the horizontal to the vertical position or obviated when the positions are reversed. In a less degree the failure of the cerebral circulation from defective blood pressure is seen in the heaviness and drowsiness which follow a heavy meal, with its consequent dilatation of the abdominal blood vessels. Some individuals cannot do active brain work in the upright posture, and instinctively adopt such attitudes as favour the flow of blood to the head. The girding of the loins for active effort has the philosophy, according to Roy and Adami, in the compression of the abdominal vessels, which raises the blood pressure and increases the output of the heart.

THE INFLUENCE OF CEREBRAL ACTIVITY ON THE CIRCULATION.

The influence of the blood pressure on the circulation of the brain naturally leads to a consideration of the influence of cerebral activity, more particularly states of feeling, on the heart and blood vessels. This is a highly complex problem, and, though it has actively engaged the attention of many eminent physiologists and psychologists, the result arrived at are neither very definite nor harmonious.

The influence of states of feeling on the circulation is, however, so patent, that at all times, and in all languages, they have been expressed in terms of the heart. The very obvious display of emotional states in this manner has led James and Lange, particularly the latter, to regard the vasomotor reactions and the conditions thus secondarily induced, in the viscera as the essential basis of the so-called "coarser" emotions, such as joy, sorrow, fear, and anger.

There is much to be said in favour of the view that the organic sensations, primary or secondary to vascular changes, constitute an important factor of emotional states, but there are serious objections to regarding

them as their essence. The sensations and emotions have their affective tone as such independently of the vascular concomitants, and it has been contended that the vascular reactions occur in point of time subsequent to the actual manifestation of the feeling in consciousness. Sherrington's experiments have also an important bearing in this relation. When in dogs the spinal cord had been severed headward of all the sympathetic nerves of the thoracic, abdominal, and pelvic viscera—thus separating the brain practically from all connexion with these viscera, from the skin of the trunk and limbs, and the blood vessels from the vasomotor centre—these animals, under appropriate stimuli, yet exhibited indubitable signs and gestures expressive of pleasure, anger, fear, disgust, and the like. The same phenomena were observed even when, in addition, the vago-sympathetic nerves were divided, thereby rendering insensitive also the stomach, lungs, and heart itself.

Unless we can assume with Ribot that there is a *memoria affectiva*, and with Dewey that there is a revival in idea of the organic states that have in past experience been habitually associated with particular feelings, we must admit from these experiments that, apart from all vascular and visceral effects, emotions and passions are capable of being felt and expressed, at least in the domain of the muscles of animal life, with all their appropriate and characteristic gestures. We can scarcely doubt, however, with James that such eviscerated and disembowelled emotions can only have been a mere simulacrum of those which would otherwise have thrilled throughout the whole frame of the animal. But even if we thoroughly recognize the immense importance of the visceral factor in emotion, it would be rash, if not altogether erroneous, to regard this with Lange as secondary only to vasomotor changes. For there are many facts, notably the luminous experiments of Pawlow, which have thrown such a flood of new light on the physiology of secretion, which prove that psychical states influence the processes of secretion not mediately through the circulation, but directly through the secretory nerves of the glands.

The most manifest organic expressions of emotion, however, are those in the domain of the circulation with which, for the present, we are more immediately concerned. The observations of Binet and Courtier show that every feeling, whether agreeable or painful, acts primarily as an excitant. The passage from the state of repose into the state of activity, intellectual or emotional, causes vaso-constriction. The stronger the stimulus, the greater the effect and for this reason perhaps the more painful feelings and emotions, which can be more readily experimentally induced, cause more marked vaso-constriction than those that are more agreeable. The heart is accelerated, the respiratory rhythm is altered, becoming more rapid and more profound, with obliteration of the respiratory pause, and at the same time there is a general rise of blood pressure. If the volume of the brain is simultaneously registered by the plethysmograph, as Mosso has described, and Brodie and I have verified, one observes almost constantly an increase. This seems to indicate that there is a relation of antagonism between the volume of the brain and that of the extremities. But this is not an absolute rule, for Mosso has observed that the oscillations in the brain volume do not in all respects run parallel to those of the extremities, probably owing to local variations in the cerebral blood vessels themselves.

Whether the quality of the sensation or emotion as such, that is, whether it be agreeable or disagreeable, pleasurable or painful—is always associated with characteristic and uniform changes in the circulation, is still the subject of considerable difference of opinion.

It is probable that the discrepancies are largely conditioned by the fact that the characters of feeling are, as maintained by Wundt, much more complex than can be expressed in simple terms of pleasure or pain. For besides being pleasurable or the reverse (*Lust* *Unlust*) feelings are exciting

or soothing (*Erregung—Beruhigung*), straining or relaxing (*Spannung—Lösung*), and vary in intensity. And Brahm maintains that each of these conditions has its specific influence on the circulation. Hence the results may so vary in different individuals that absolute uniformity probably does not exist.

Apart from the suddenness of the change from a state of repose to a state of activity, whether this be indifferent, such as mere surprise, or of a painful or pleasurable character, the balance of evidence is in favour of the view that pleasurable sensations and emotions are accompanied by vascular dilatation and low tension, while the contrary are associated with vascular constriction and high tension pulse. This is borne out not only by experiments on normal individuals but by observations on the morbid states of joy and sadness in the typical forms of insanity.

The vascular dilatation of pleasurable states of mind is associated with a more active circulation and exaltation of all the vital processes—dynamic and metabolic, while the opposite condition obtains in states of mental pain. Conversely also, given the vascular and corporeal state arising spontaneously or induced artificially, usually associated with any particular mood, trains of thought and states of feeling corresponding therewith are apt to arise in consciousness. This in all probability, as Lange indicates, is the origin of the use of stimulants and nervines of various kinds, which all nations, and at all times, have discovered for themselves. That “wine maketh merry the heart of man” is only a more picturesque statement of the truth I am endeavouring to convey in more didactic style.

Pleasurable and painful emotions are thus not merely subjective states of consciousness, but at the same time objective corporeal conditions of exalted or depressed vital energy respectively, which manifest themselves not only in outward attitude and gestures, but in the relative power of the organism to withstand debilitating agencies of all kinds. To promote the one and combat the other is, therefore, to the physician not less important, and perhaps more a mark of therapeutic skill, than a judicious selection from the *materia medica*.

There is thus a similarity, if not identity, between the effects on the circulation of painful and pleasurable sensations and painful and pleasurable emotions, and at bottom they are probably based on the same physical substrata. Pain and pleasure are merely the subjective aspects of physiological conditions harmful or beneficial to the organism—a harmonious relation or the reverse between the processes of integration and disintegration.

As all the emotions, however complex, are founded ultimately on the effective tone accompanying the exercise of the organs of sensation in all their relations, visceral and somatic, the emotional and sensory substrata are one and the same. And it is not improbable that each organ has its own affective tone, its own centre, and contributes its own share to the general emotional result. Whether the feelings are conditioned from within or without, by presentation or representation, the effect on the circulation is the same. That which seems to constitute the chief difference between simple feelings and emotions is the relatively greater influence of the latter as compared with the former. Emotions are unitary composites of simple feelings, and the resulting aggregate is much more powerful than any one of its individual elements. Fear, which is mental pain, causes greater acceleration of the heart, greater vascular constriction, and greater pallor than can be induced by mere physical pain. Not only is the circulation profoundly affected, but there is a tendency to irradiation beyond the cardiac and vasomotor into all the splanchnic functions, so that we observe, *visceræ*, profuse perspiration, horripilation and movements of the abdominal and pelvic viscera, which can rarely, if ever, be reflexly induced by any degree of peripheral stimulation. In its more intense forms, it may

for ever arrest the heart beat, or so break down all the protective mechanism of the organism that flight, defence, or other means of adaptation are rendered impossible, and the animal falls an easy victim to the danger assailing it.

When we inquire by what mechanism the centres of thought and feeling influence the heart and blood vessels—whether there are cortical, cardiac, and vasomotor centres properly so-called, or whether the cerebral hemispheres act only indirectly upon the cardiac and vasomotor centres of the medulla oblongata, we come upon a subject on which, in the present state of our knowledge it is necessary to speak with caution, avoiding too confident or dogmatic assertion. Several observers (Schiff, Bochefontaine, Danilewsky, and others) have described variations in the rate of the heart and tone of the blood vessels as resulting from irritation of various portions of the cerebral hemispheres, particularly the motor area or adjoining region.

But the careful experiments and weighty considerations advanced by François Frank render it most probable that all the cardiac and vascular effects that occur are merely the correlated concomitants of the functional activity of the motor centres, excited in a more or less obvious epileptic manner; or that the cerebral hemispheres are only the point of departure of stimuli which influence the cardiac and vasomotor centres of the medulla in precisely the same way as those which originate in the periphery. The results are inconstant; sometimes acceleration, sometimes inhibition; they cannot be foretold; they do not vary with the point of stimulation; they have none of the features of the contralateral manifestations so characteristic of stimulation of the motor centres; and there is no good ground for assuming that there are any definite areas controlling respectively acceleration, inhibition, vaso-constriction, or vaso-dilatation.

It is, indeed, probable that many of the reactions on the heart and blood vessels which have been described as resulting from cortical excitation, are only mediately produced through the respiratory centre which we know is to a considerable extent governed from the cerebrum. The cardiac and vascular centres in the proper sense of the term are in the medulla oblongata, and the hemispheres are to them as much peripheral as the sensory nerves in general. The same may perhaps be affirmed of the so-called centres of the salivary and digestive glands recently described by Bechterew and his pupils. Through what centrifugal channels the cerebral hemispheres influence the cardiac and vasomotor centres is not definitely ascertained, but they probably traverse the tegmentum beneath the corpora quadrigemina. For in this region electric stimulation, as Danilewsky, Lauder Brunton, myself and others have shown, invariably produces such alterations of cardiac and respiratory rhythm and vascular tone as might well be regarded as signs of irritation of the paths by which the cortical centres transmit their influence to those of the medulla oblongata. We can, however, scarcely expect by artificial methods to reproduce the conditions underlying any particular emotion, and no one has yet succeeded in imitating, either by reflex or central stimulation, the blush so characteristic of the emotions of modesty or shame. But further to discuss these and kindred topics would lead me far beyond the limits of an occasion such as this.

My object has been to present to you a concise sketch of some of the principal relations of the heart to the nervous system which we have learnt since the time of the immortal Harvey. I have left many problems untouched, and as to those on which I have ventured, I have I fear succeeded only in demonstrating how much is still hypothetical and uncertain.

Doubtless some Harveian orator of the future, if he takes up the same theme, will be able to expound it more luminously in the light of fuller and riper knowledge. This will surely come if only we follow in the footsteps of our great master, and obey his wise injunction to "search out Nature by way of experiment."—*Brit. Med. Journ.*, Oct. 25, 1902.

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The 2nd March, 1901.

VISITED the Chaitanya Chatuspathi, this day and found 39 pupils on the rolls of whom 6 read Sanskrit Grammar, 6 *Belle's letters*, 4 Bedantya and Sankhya, 6 Purans and 17 Smriti.

I am glad to write that some of the boys read English for enabling themselves to be Sanskrit Pandits in connection with the High English Schools.

This institution is something like the miniature of a Sanskrit College, where multifarious subjects are taught, and it gave me much satisfaction that through the sole exertion of Pandit Brajaraj Bhagbatratna the institution was raised to its present status.

The institution is situated in a pucca two-storied house lent by Rai Banamali Roy Bahadur, Zemindar of Taras. It gives me much pleasure to find that attached to the institution there is a good library containing printed as well as manuscript Sanskrit books.

An institution of this kind, I think is very useful and I wish it every success.

(Sd.) ARUN CHANDRA GANGULI,
Offg. Dpy. Insp. of Schools,
Naddea.

VISITED in company with the Deputy Inspector of Schools.

(Sd.) CHARU CHANDRA BANERJI,
The 2nd March 1901. Sub-Inspector of Schools.

I VISITED the Chaitanya Chatuspathi and was highly satisfied with the arrangements made for the management of this very useful institution which is located in a well-ventilated pucca two-storied house which has been kindly provided by Rai Banamaly Roy Bahadur, Zemindar of Taras in Pubna, who renders material help to this institution. There are many demands for which the institution expects help from the public and without which the stability

of the institution will be very doubtful. In the present state of Nuddea (Navadwipa) the existence of an institution which imparts knowledge in Hindu Shastras in all the departments was a long-left want and "Chaitanya Chatuspathi," has removed that want. It now only rests with the noble-hearted gentlemen of the country to see that it does not decline or cease to exist through the want of their support and encouragement which it so rightly deserves.

The honest exertion and self-sacrifice of Pandit Brajo Raj Goswami, the Superintendent, for the welfare of the institution reflects great credit.

(Sd.) RAM DASS SARKAR,
*Superintendent, Comptroller
 General Office.*

The 5th March, 1901.

The 28th May, 1901.

I HAD the pleasure of visiting this Chatuspathi so ably conducted by Pandit Braja Raj Goswami. It is conducted in a different way from the other Toles of Navadwipa. All the other Toles here are either Smriti or Naya Tole while this is like a university where there are arrangements for the teaching of Kavya, Vyakarana, Smriti, Naya, Sankhya, Vedanta, and the Bhakti Shastras. The two-storied pucca building so kindly lent by Rai Banamali Roy Bahadur Zamindar of Taras in Pabna gives a very good accommodation to the resident students who form the majority of pupils, there being only 4 pupils belonging to this place who do not live in the Tole house.

I examined the last few years' results at our Departmental Examinations and compared them with those of the other Toles here, and found that the results achieved by the Chatuspathi were far better than those of any other Tole in Navadwipa except perhaps the Pucca Tole. This is highly creditable.

Five of the government stipends to pupils have been allotted to the Chatuspathi, but considering the results I should think it deserves more encouragement at our hands and I hope the Deputy-Inspector of Schools who has the distribution of the amount of stipends in his hands, will look to this.

There are now 34 resident pupils on the roll, I found 15 present yesterday, the rest having gone home after departmental examinations. The superintendent takes every possible care for them. I don't know how sufficiently to praise the energy of the superintendent who conducts the Toles at a great disadvantage. The income amounts to Rs. 1000 in the year while the expenditure comes up to Rs. 1560, the large deficiency of Rs. 560 being met by the superintendent from his own pocket unless the generous public come forward to this help, I don't know how long the Chatuspathi can be worked in the present manner.

(Sd.) PHANI BHUSAN BOSU,
Offg. Asst.-Inspector of Schools,
Presidency Division.

(Sd.) ARUN CHANDRA GANGULI,
Offg. Asst.-Inspector of Schools
The 28th May, 1901.

The 10th June, 1901.

VISITED Chaitanya Chatuspathi to-day. The Founder-Secretary has devoted his life for the benefit of Pandits. He wants to give his students not only sound education in Sanskrit and English but to give their education a practical turn. They will be able to live by their education, some by *kathakata*, some by becoming Head Pandits and translation masters of English Schools. To make the education perfect and sound I would recommend the Founder-Secretary to give his pupils a sound education in Bengali. No education can be sound without a thorough grounding in the pupils' mother tongue. The Secretary will find it much easier to teach Sanskrit to one who knows his vernacular than to one who does not. The enthusiasm of the Secretary and his staff and the enthusiasm with which he has inspired his pupils lead me to form high hopes about the future of the Institution. We want men, every thing will follow when right men are found in the right place; and this is one of the happiest case of the right man in the right place.

(Sd.) HARA PRASAD SHASTRI,
Principal, Sanskrit College.
Calcutta.

19th August, 1901.

VISITED the Chaitanya Chatuspathi, number of pupils 35. Subjects taught Smriti, Literature, Vedanta, Sankhya, Puran, and English. There are two teachers one of whom is the Founder-Secretary Pandit Braja Raj Goswami. This gentleman seems to me to be spending his life very usefully by encouraging the diffusion of the knowledge of Sanskrit.

(Sd.) P. MUKERJEA,
Offg. Inspector of Schools,
P. D.

8th December, 1901.

I VISITED the Chaitanya Chatuspathi with some friends and was very kindly received by Babu Braja Raj Goswami, was much pleased with what I saw and heard of the progress of the institution. I wish it all success.

(Sd.) W. B. BROWN,
D. & S. Judge,
Nadia.

The 9th January, 1902.

TO-DAY I am pleased to have visited the Chaitanya Chatuspathi, founded by Srimut, Braja Raja Goswami, a lineal descendant of Advaita. He has established the Chatuspathi with the greatest effort and spares no pain towards its gradual improvement. We have founded two monthly scholarships in this connection of 8 Rs. each, to be respectively called the Vishvanath and Radhapriya Scholarships, after my name and that of my wife, out of which the Vishvanath Scholarship is open to Bengalee Students, while the other, viz., the Radhapriya Scholarship, is confined only to the Uriya Scholars.

Written by
 SREE VISHVANATH DEVA VARMAN
of Atagarh in
Cuttack.

THE
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DRUG ATTENUATION.

IV.

(Continued from Vol xxi, No. 10, p. 405).

We have seen that in the making of dilutions we need not mind the objections that have been raised from considerations of the old atomic theory of discrete atoms; and that to be on safe ground, to be sure of the actual degree of our dilutions, we must not use the problematic and fanciful methods of fluxions and infections, but make use of the Hahnemannian processes of trituration and succussion. But even with these methods are we to go on ad infinitum? Are we to set no limits to the diluting process? Are we to have no fixed principle to guide us in carrying it from lower to lower still, or if you like from higher to higher? The object of the physician is to cure, with as little or no extra disturbance in the patient's condition, and this Hahnemann had observed, could only be achieved by the administration of the minimum dose of the curative medicine. The question to determine is—what is the minimum dose? Is it possible to fix one minimum dose for all diseases, or even for all cases of the same disease in different persons? Hahnemann thought it possible, and he fixed his 30th as such. But his actual practice was not consonant with his dogmatic teaching, as he used dilutions as low as the 3rd. This shows that he himself did not venture to go beyond his own experience.

Now this fact ought to lead us his disciples to serious considerations on the subject. Ought we not to imitate the master in his actual practice rather than in his teaching? Ought we not to be guided by our own experiences as he was by his? And if we are to be guided by our experience what ought we to do? Suppose we fail with a particular dilution of our indicated medicine, say the 3rd centesimal, if there is aggravation, we should stop the medicine and watch the result. If no improvement takes place we should go to the next lower (or higher as ordinarily called) say the 6th, and so on till we arrived at the 30th, stopping and watching before changing medicine if the patient's condition would permit. We would in many instances find improvement and even actual recovery after apparently no improvement for some time from a single dose. But if there is no improvement and no aggravation, we may safely go to the 2nd or 1st, rather than to the 6th or 12th or 30th, and we shall often be rewarded with success. We should think this to be a much safer procedure than to make high jumps at random. Of course there would be no objection to these jumps if there is previous experience to justify them.

These views receive corroboration from the following striking cases which were published by Dr. Arnold, of Heidelberg, in the *Homœopathic Vierteljahrschrift* for January, 1864, and which were quoted by Dr. Carroll Dunham, a staunch advocate of high dilutions, as they "present evidence on the other side and deserve particular attention."

"A Case of Psoriasis Guttata.

"The power of the preparations of Arsenic to cure psoriasis is so well known that I should not publish this case, were it not that it furnishes, in addition, a striking evidence of the fact, that even in chronic diseases we are often to give strong doses even of the very heroic remedies if we would accomplish a cure.

"A lady, eighteen years old, whose childhood had been healthy, and who had never had any sickness worth naming, who felt very strong and well and had a blooming appearance, and in whom no predisposing cause for any skin disease could be discovered, observed several years ago, on certain parts of the body, isolated, red, somewhat elevated spots, on the surface of which small scales were visible. Inasmuch, however, as she felt well and the spots had spared the face and neck, she did not think it

necessary to seek medical advice. Gradually the spots became more numerous, their dimensions also increased, and although the patient had no other complaint, she was induced to seek the advice of a physician on account of the itching, which was often troublesome, especially at night.

"Purgatives and the so-called blood-purifying tea (species *lignorum*) had no result. In the spring of 1861 she came to me. The eruption was over the whole skin with the exception of the face and hands; the spots were large and confluent. I gave her at first one grain daily of the sixth decimal trituration of Arsenic. But as no change had occurred in fourteen days, I changed to the fourth decimal trituration, of which a grain was taken every forenoon. In fourteen days I found a certain improvement, in that certain spots seemed to be less red and did not itch at night. I now intermitted the use of Arsenic for three weeks, and after this period found again the old evil condition. One grain of the third decimal trituration of Arsenic which was now given daily for fourteen days, wrought a more striking improvement, as well in relation to the development and size of the spots, which were much less, as also in respect to the itching at night which had almost altogether ceased. But inasmuch as, after a pause of fourteen days, this improvement had again partly disappeared, I felt myself obliged to resort to a still stronger dose of the remedy in order not to put the patience of my client to too severe a test. She now received, once every day, two grains of the second decimal trituration—that is, one-fiftieth of a grain of Arsenious acid. The action of this dose resulted, after two weeks, in a very striking improvement, which moreover maintained itself during a suspension of the remedy for the next two weeks. I therefore allowed the patient to continue the remedy for two weeks longer, taking daily a two-grain dose of the second decimal dilution. The cure was complete and permanent; for a half year afterward I had an opportunity of seeing the lady, and was assured that the recovery has been lasting.

"On the subject of the homœopathic relation of Arsenic to psoriasis, scarcely any physician who is familiar with the effects of this remedy can entertain a doubt. I must confess, too, that I have often seen a cure result from the use of the sixth, but still more from the fourth decimal trituration of this drug. Even in the case just related, the amelioration might have proceeded to an enduring cure if the use of the fourth trituration had been continued for a longer time. But inasmuch as the patient had borne the Arsenic very well, and not a single symptom of its pathogenetic action had been apparent, even after a daily dose of two grains of the second trituration, there was no reason for losing time in the use of small doses. In any case, this is a new

evidence that in chronic diseases even very heroic remedies must sometimes be given in very large doses.

A Case of Nasal Polypus.

"A lady, aged fifty-five, of respectable position in society, pale, of delicate constitution, small and rachitic from childhood, but never seriously ill, perceived, several years ago, in the right nostril an impediment to respiration. An examination by a physician readily disclosed the presence of a mucons polypus. Various remedies were administered during a long period without perceptible effect. Neither *Mercurius dulcis*, used as a snuff nor Corrosive sublimate in solution, to be inhaled, had a noteworthy or enduring effect. The patient thought the slight changes noticed were rather to be ascribed to the weather, and especially to the dryness or moisture of the atmosphere than to the remedies used.

"Under these circumstances, the operation being proposed, I was asked whether a cure was possible without operative procedures. I declared that a cure by means of internal remedies not only might succeed, but that it would have a more enduring result than the mechanical removal of the growth could have; and further more, that an operation, in case it should prove necessary *after* an internal treatment, would be more certain and more lasting in its result than one without the previous use of corresponding remedies.

"Having seen from *Calcareo carbonica* in several similar cases a very striking and unmistakable curative action, I prescribed the fourth decimal trituration of this remedy and ordered first one grain daily, and after eight days two grains daily to be taken. After two months, the patient appeared and reported that she had taken the remedy four weeks and then intermitted it for four weeks, and that no change in her condition was observable. And I could myself perceive neither increase nor decrease of the polypus excrescence. This determined me to give the second decimal trituration, one grain daily. After fourteen days, the nostril having become more permeable, and a diminution in the size of the polypus being perceptible, although very trifling in degree, I allowed a pause of four weeks in the use of the remedy. After this lapse of time, the tumor regained its former size; the lady was more than ever inclined toward the operation.

"I concluded to wait upon her a few weeks longer, and gave her the officinal lime-water, a tea-spoonful daily in milk. Four weeks later the lady came again to me; a most careful investigation revealed no traces of the polypus. She informed me that there was amelioration after the very first doses of lime-water,

and that after a fortnight the nose had felt entirely free, and since that time there had been no aggravation.

"The improvement has already lasted more than a year without any further administration of the remedy. Repeated examinations have failed to enable me to discover any trace of the polypus."

After these instances illustrative of the efficacy of low dilutions, bordering on the massive doses of the old school, it is but fair that we should cite instances, illustrative of the efficacy of high dilutions. Fortunately we can lay our hands on some reliable cases. These are cases from the practice of Dr. Dunham. They are reliable because Dr. Dunham prepared his own dilutions, not by the fanciful and uncertain processes of fluxions and of simple contact, but by the true Hahnemannian process of succussion. Hence when Dr. Dunham speaks of the 200ths we are sure that they were what they are called, genuine 200ths on the centesimal scale. We give the cases in full in order to enable our readers to judge for themselves that they are true cures effected by the drugs administered. These cases have the further importance of showing how homœopathic remedies should be selected.

Chronic Diarrhœa Cured by a Single Dose of a High Potency.

Charles C , aged ten years, has had diarrhœa ever since he was four years old; has been subjected to various modes of treatment, including the Homœopathic, but without any material benefit. He is of good height for his age, but is emaciated to an extraordinary degree;—not only are his tissues utterly devoid of fat, but the muscles are wonderfully attenuated;—my thumb and finger meet with ease around the middle of his arm. Nevertheless, he is active and full of fun. His appetite is prodigious; thirst very great; he complains of distress in the epigastric region, which is much greater just before a stool, compelling him to press his hand upon that region and bend forward; this is relieved to some extent by a movement of the bowels. The epigastrium is sensitive when touched. The abdomen is greatly distended; this is habitual; it is hard and tympanitic; by forcible manipulation, one can detect hard ovoid bodies, deep in the abdomen, as large as a pigeon's egg. The number of stools in twenty-four hours varies from five to twenty. They are copious, pappy, of a dark greenish-brown color, quite offensive. They occur chiefly during a period from 4 A.M. to noon—seldom after noon or before midnight. Though so copious, they do not pro-

duce faintness or a sense of weakness, nor does the boy complain of debility, although aware that he is not so strong as other boys of his age. On the contrary, he is lively and full of mischief, his chief complaint being of the very frequent pain in the upper part of the abdomen, which he describes as a "grumbling pain," and sometimes, "a very sharp squeeze."

Of the particulars of his previous treatment I could learn but little. During the summer preceding my first visit to him he had been under homœopathic treatment (not in this village), and I was told that he had taken a good deal of Arsenicum, which, however, to the great surprise of his physician had done him no good.

And, indeed, on a hasty review of the symptoms, it might seem extraordinary that Arsenicum should have failed to cure the case. The dark, pappy, offensive stools, preceded by tolerably acute pain in the abdomen, with great and excessive emaciation, comprehend, to speak with the pathologists of *our* school, the *essential* features of this present disease of the alimentary canal, and, moreover, present a fair simile to the Arsenicum disease. A careful examination, however, will show that some even of these symptoms vary in important aspects from the corresponding symptoms of Arsenicum, while other symptoms which betray the diathesis of the patient are quite at variance with those of Arsenicum. *For example*, in the first place, the thirst, although very great, is *not* satisfied by a small quantity of water, as in the Arsenicum disease; the stool, though similar in color, consistency and odor to that of Arsenicum, is *copious*, that of Arsenicum being, like all the secretions under that drug, *scanty*. It is not attended by as great a sense of exhaustion as one would expect to find. Indeed, the debility and muscular weakness are *much less* than one would suppose must result from a diarrhoea so copious and of so long duration, whereas in the Arsenicum disease the general prostration is much greater than can be accounted for by the actual drain upon the system. In the second place, the aggravations occur in the *morning*, while in the Arsenicum disease they occur almost exclusively in the *evening*. The abdomen is distended and hard, making the child quite pot-bellied, whereas Arsenicum produces retraction of the abdominal walls and concavity of the abdomen. The appetite is very great, a symptom which is not characteristic of Arsenicum.

Then it appears, although the symptom to which my attention was first called, as being the symptom of chief importance, seemed to point to Arsenicum as its remedy, yet the conditions and concomitants of that symptom and the general symptoms of the patient did not at all demand, but decidedly contra-indicated, that remedy.

But with what propriety can the diarrhœa, the frequent liquid stool, be regarded as the symptom of chief importance, the primary symptom, so to speak? It is that symptom which would first strike the observation of the patient's friends, because so decidedly objective in its character; but it is obviously a secondary phenomenon, depending on the diseased state of the alimentary canal of the mesenteric glands; and this diseased state depended unquestionably upon a general depressed state of the vascular and nervous systems, or upon a modified vital action, which is manifested in those *general symptoms*, upon which we predicate distinctions of dyscrasia and diathesis. Taking this view of the case, it is evident that to assign the chief place in our scheme of symptoms to the *diarrhœa*, would be to prescribe for *symptoms* (and secondary ones at that) rather than for the *whole morbid state* of the patient. But if, in accordance with the view I have indicated, we give but a secondary place to the diarrhœa, it becomes easy to find a remedy for our case. The distended, prominent abdomen, the indurated and enlarged glands, the excessive appetite, the great thirst, demanding large draughts of water, the pain in the upper part of the abdomen just before the stool, the tender epigastrium, the copious and long-continued diarrhœa, *without corresponding exhaustion*,—all these symptoms combine to exhibit a condition which finds its exact simile in *Calcarea carbonica*. Moreover, although *Calcarea* does not produce stools of the color met with in this case, yet the *conditions* of stool produced by *Calcarea* correspond to those of the case in hand. The aggravations of *Calcarea* are frequently in the morning, and the pain in the abdomen is relieved by warmth as in this case. *Calcarea carbonica*, therefore, was selected as the appropriate remedy, and the propriety of giving it being so obvious that I could not suppose it had been over-looked by the physicians who had previously attended the lad, and there being every probability that, if they gave it at all, they gave it in low potencies, I concluded to give the two hundredth. Two globules were accordingly dissolved in four ounces of water, and a teaspoonful of the solution ordered to be given every four hours. For the week preceding this prescription the boy had had twenty stools daily, and very great pain.

On the third day after the remedy was administered, I called again. The lad had had but one stool daily since the day after my visit; and during the ten months which have since elapsed, his bowels have moved regularly, but one daily, the stool being in all respects normal. In the space of one month the lad became so ruddy and plump—having gained twenty-two pounds in weight—that I should not have known him. As he gained flesh and strength, the rotundity of the abdomen disappeared, and

at the end of the third month the indurated abdominal glands were no longer to be felt. He received no medicine besides the single dose of *Calcarea carbonica*, above mentioned.

It may seem incredible, and I confess I cannot explain it that a drain so long established and so copious could be instantaneously checked without producing at least temporary disturbance of some other character. The fact, however, does not admit of dispute.

In a review of this case, two points seem worthy of notice.

1. The prompt and enduring action of the high potency. I would not venture to say that a low potency would not have acted as promptly; certainly, however, nothing *better* could be imagined or desired.

2. The great importance of paying careful regard, in the selection of a remedy, to the *general* symptoms of the patient, as denoting the dyscrasia, and to the conditions (time and character of aggravation, etc.) of every symptom.

Pterygium Crassum Cured by a Single Remedy in a high Potency.

The following case is thought worthy of special notice for several reasons. It presents an instance of a diseased condition which being on the surface of the eye, may be made the subject of constant observation.

Such a condition has never, so far as my knowledge goes, been produced by any remedy. It is not contained in any proving. A homœopathic prescription for it must therefore be based upon the general characteristic symptoms which the patient may present, and to which corresponding symptoms may be found in some drug-proving.

The writer has never treated a case before, and does not recall any record of the cure made by homœopathic remedies. He was not, consequently, influenced in the selection of a remedy by any knowledge *ex usu in morbis*.

The patient was not encouraged to expect a cure, but looked forward to a surgical operation as a matter of necessity. There can be no ground, then, for ascribing the cure to faith, the last resort of the credulous incredulous, to whom it is easier to believe that a grave and material disease can be cured by imagination, the intangible, than by a high potency, the imponderable!

The cure was effected by a single remedy, in a high potency, the two hundredth (prepared by myself).

J. N. S., a farmer, aged fifty-five years,—generally in good health,—has had for three years a pterygium upon each eye. Starting from the inner angle of the eye, this morbid growth, which was thick, opaque, and richly supplied with large blood-vessels, and much resembled a strong muscle, extended over the

sclerotic, had invaded the cornea with a thick, broad extremity, and now covered more than one-half of the pupil, rendering the patient nearly blind.

The conjunctiva of the remaining portion was deeply injected. The eyes were filled in the morning with a muco-purulent secretion.

The patient was unable to endure artificial light, and compelled to carefully protect the eyes during the day-time. Reading was out of the question at all times.

Within the last six months the growth of the pterygium had been very rapid.

The eyes were very painful, especially in the evening and at night. The pain was in the inner angle of the eyes, a pricking, smarting pain, seeming to be situated deep in the globe. Dust in the atmosphere greatly aggravated the pain. In addition there was a very severe pressure *at the root of the nose* and across the supra-orbital region. There was considerable lachrymation, especially in the evening.

The effect of this disease was to entirely incapacitate the patient for every kind of business.

In this condition the patient placed himself under my care about the 1st of July, 1863. He had been advised that an operation for the removal of the pterygium was the only thing to which he could look for relief, but had also been told that in the present inflamed condition of the eyes, and at the unfavorable season of midsummer, the operation would expose him to no inconsiderable danger of sequelæ that might be very disastrous. He had been counseled to endure his present symptoms until the weather should become colder and more favorable for the operation.

His motive, therefore, in coming to me was to get some palliation of his suffering, some temporary relief, that the summer months might be made more tolerable to him.

I gave him no encouragement to believe that I could do more than slightly palliate his sufferings; for as has been already remarked, I had never treated a pterygium, and never heard of a homœopathic cure of one.

Seeking a homœopathic remedy for the case, as it has been stated, I could get no light from the objective symptoms, since no proving contains anything like them. Nothing remained but the subjective symptoms. Of these, the pain, smarting and pricking, and which was singularly confined to the inner angle of the eye and seemed deepseated, the pushing pain at the root of the nose, the marked aggravation in the evening,—these symptoms together suggested *Zincum metallicum*.

In the proving of *Zincum* we find (symptoms 194, 197, 205,

209), biting, pricking and soreness in the inner angle of the eyes; lachrymation, especially in the evening; inflammation and redness of the conjunctiva; suppuration of the inner angle with soreness,—many of these symptoms being aggravated in the evening; symptom 248, "Pressure on the root of the nose, as if it would be pressed into the head, almost intolerable," together with 249-251 of a like significance.

The other symptoms of the patient being well covered by those of Zincum, I concluded to give this remedy.

I felt the more hope of some benefit from it, from the fact that my (allopathic) preceptor, who had much experience and success in the treatment of diseases of the eye, had often said that sulphate of zinc, applied externally, had a more beneficial effect in pterygium than any other astringent or caustic application.

Now, as Sulphate of zinc is by no means so powerful an astringent or caustic as many other substances that are commonly used as applications in such cases, certainly the superiority of Zinc could not be attributable to its mere possession of those properties which it has in common with other collyria, as, for example, Nitrate of silver, Sulphate of copper, etc., etc.. It must be due, then, to some specific quality of the zinc. In passing, let me venture the remark, that in clinical observations like the above, made by sagacious allopathic observers, we may often find valuable hints to supplement our pathogenetic knowledge of drugs.

To return to the case, I determined to give the two hundredth potency of Zinc, the case being, as it seemed to me, a very fine one for experiment with a high potency.

I gave four powders of sugar of milk, each containing three globules of Zincum metallicum³⁰⁰, and ten additional powders containing nothing but sugar of milk; a powder to be taken dry on the tongue, every night on retiring; the patient to report on the fourteenth day. No change to be made in diet, regimen, or occupation. No external applications to be made.

July 15. The patient presented himself and stated that on the third day after he began to take the powders he began to feel much better, and that now he was entirely free from pain and discomfort and from lachrymation. The morning secretion was much less. I thought the eye appeared less inflamed, but beyond this there was no change in its physical condition. I gave sugar of milk and requested a report in a fortnight, or sooner, in case the pains should return.

August 1. No return of pain. The pterygium has certainly diminished in size; it is not so thick and luxuriant as formerly. Sugar of milk.

August 10. The patient came to apprise me of a return of the pains to moderate extent. I gave three powders of *Zincum metallicum*²⁰⁰, to be taken every night on retiring.

August 20. The pains disappeared after the first powder and have not returned. The pterygium is evidently decreasing.

Twice again the pains returned, and on each occasion I gave a powder of the *Zincum*²⁰⁰. By the end of October, the time fixed for the operation, the pterygium had diminished so far that it was only a little colorless ridge in the extreme inner angle of the eye, the sight was entirely restored, the patient could use his eyes freely both by day and in the evening; there was no longer any thought of the operation; in fact, it would have been hard to find anything to operate upon.

At the present date there is no trace of the pterygium remaining upon the left eye. In the inner angle of the right eye there is a small speck yet visible."

From the two sets of cases we have presented to the reader, one set demonstrative of the efficacy of low and the other of high dilutions, it will be evident that the conclusion from them can be no other than what Dr. Dunham himself had come to, namely, that "the question of the dose is manifestly an open one. Experience must be accumulated before we can hope to discover a law for our guidance on the subject." We shall see in our next on the strength of what evidence Dr. Dunham finally based his recommendation of the use of high dilutions, or potencies if we like to call them so.

(To be continued.)

DR. McLEOD ON THE EDITOR OF THIS JOURNAL.

We reproduce the following generous remarks on ourself from the *Indian Medical Gazette*, of the current month. They are from the pen of one with whom, while he was here in Calcutta, we had frequent passages at arms on the subject of Homœopathy, —we reproduce these remarks to show how, while fighting in the cause of what they believe to be the truth, even the most zealous and uncompromising combatants, may be charitable and friendly to each other if their respective beliefs are honest and sincere. Dr. McLeod, in his several capacities as a brilliant Professor of the Calcutta Medical College, as a most successful surgeon, as Health Officer of Calcutta, and as editor of the *Indian Medical Gazette*, was an ornament of his Profession and a staunch defender of

Orthodoxy. But he is a man who possesses a generous British heart. He is no respecter of person and appreciates merit wherever found. The *Gazette* is to be congratulated on its having secured the services of its old editor as its London correspondent. Dr. McLeod's letters are full of interest, containing information about subjects and events of importance to the Profession.

"I read lately in an Indian paper a report of the annual meeting of the 'Indian Association for the Cultivation of Science,' at which the Honorary Secretary, Dr. Mohendra Lall Sircar, made a speech which affected me profoundly. From this speech I gather that Dr. Sircar's health is bad and rapidly failing, and that his endeavours to establish among his countrymen a substantial and abiding organization for the cultivation of science have been abortive. 'I can,' he is reported to have said, 'only give expression to one feeling that has taken overpowering possession of me, and that is a feeling of regret—regret at having wasted a life. I have failed in fulfilling a task which I had imposed upon myself.' This task was the institution of professorships for the teaching of science. And why did he fail? Not for want of insight, energy, enthusiasm and perseverance on his own part; not for want of sympathy and (wordy) co-operation: but for want of money. His countrymen would not, with two honourable exceptions, contribute to endow professorships or create laboratories. I am afraid this is too often the fate of ambitious and high-sounding projects in India—much tall talk at the inception, no material support, inanition and extinction. In this present instance the case is sad and pathetic. I am no admirer of the homœopathic heresy, as my writings in this journal abundantly testify, and I have more than once deplored Dr. Sircar's defection and the estrangement which it caused between him and his professional brethren—a split, the traces and results of which remain to this day; but I verily believe that Dr. Sircar's espousal of homœopathy was honest and grounded on the belief that it furnished him with a fundamental scientific principle, which placed medical practice on a higher plane. It required no little moral courage on his part at the time to break away from his teachers and fellows, and I honour him accordingly. But apart from this, Dr. Sircar's efforts to cultivate and commend physical science and research, have been true, worthy and persistent; and I cannot get myself to admit that they are doomed to failure. The thing must come sooner or later, and the man's labours must bear fruit, and his name and work must be perpetuated. But how much better if his aspirations and intentions were realized while he is with us and, if before quitting the scene of his easy triumphs and rare failures, he could experience the satisfaction and joy of seeing his yearnings gratified and his projects accomplished." K. McL.

REVIEW.

A Lecture on Homœopathy. By John Henry Clarke, M.D. The Homœopathic Publishing Co., London, E. C., 1902.

This lecture was delivered in the Board Room of the London Homœopathic Hospital in May last, for the benefit of the sisters and nurses of the hospital. It may be asked what necessity was there in instructing the nurses of a homœopathic hospital in the principles of homœopathy. They have simply to carry out the orders of the physician or the surgeon of the hospital, and are understood and indeed are strictly enjoined not to exert their own will or use their discretion in disobeying or interfering with those orders which they are not likely to do if they are made acquainted with the principles on which those orders are based. Here, if any where, it may be thought, little learning may in all probability prove a dangerous thing. But ignorance is never a blessed thing, and in every affair of life it is better to have some knowledge than none. * And particularly in the case of homœopathic practice, in consideration of the wrong or mischievous ideas that are prevalent amongst the laity, ideas imbibed from the old school, it is absolutely necessary that the sick should have people to attend on them who are not influenced by those ideas; and strange to say, unless the attendants are in full sympathy with the doctor they do their work but half-heartedly and not in full sympathy with the patient. We have had innumerable instances of nurses who from their old prejudices have thwarted our endeavours to do our best to the patient. And for the benefit of our patients we had often to dispense with the services of such mischievous nurses. Even the patient's own relatives, if they happen to be antagonistic to homœopathy, do not prove good and faithful nurses under a homœopathic practitioner. Such being the case, this lecture of Dr. Clarke was opportune and will prove highly useful to those whom we want to engage as nurses for our hospitals or for our private patients.

The lecture will be useful not only to nurses, but also no less to laymen generally who wish to have some idea of a system of medicine of recent growth which has superseded the systems which have held sway over the mind of the profession for ages.

It will realize, we are confident, the author's hope, "that it may bring into clear light some of the main facts of homœopathic science and art." The student of medicine will find it profitable reading. It is written in the author's sparkling and impressive style, interspersed with striking anecdotes which have made it very attractive, and will interest even those who are familiar with the system and have grown grey in its practice. For ourselves we can say that we spent a most pleasant hour over its perusal.

In the preface Dr. Clarke has illustrated the action of homœopathically acting remedies by a very striking analogy from acoustics and optics. A lady who did not dispute the *fact* of homœopathic cures wanted to know how they are brought about. "Imagine," said he to her, "a body with the vibrations perfectly harmonized and balanced representing a state of health. Now imagine another body with the vibrations disturbed in a manner similar to that which a drug might produce—say, for the sake of example, with a headache like that which *Belladonna* is capable of causing. Now suppose the *Belladonna* force is applied to both these bodies; is it likely that the same effect will be produced on the other body whose equilibrium is already disturbed?" My questioner agreed that it was not likely, and, indeed, not possible. "Of course," I continued, the conditions being different, the effect must be different. The new force, acting on the balanced vibrations of the body of the healthy body, disturbs them in the manner specific to the drug. How does it act when it is applied to a body already representing its own vibrations? It acts in one of three ways: (1) It may neutralize the vibrations of its own quality (as similar rays of light or sound travelling in opposite directions neutralize each other), so producing a homœopathic cure. (2) Or, it may intensify the disorder, producing homœopathic aggravation. (3) Or, it may first intensify and then annul the disordered vibrations, producing homœopathic cure following homœopathic aggravation." We take the liberty to point out that the rays need not come from opposite directions to annul each other. The difference of half a wave length at the start is enough and indeed sure to bring about this annulment. If there is not this difference there will be intensification and not

extinction even if they come from opposite directions. This analogy may help to explain the necessity of a smaller dose than the pathogenetic for curative purposes.

Dr. Clarke has related an anecdote of the late Dr. Noë Walker which is well worth reproducing as showing the distinction between a belief in facts and mere opinion. "When Dr. Walker was attending a member of the Royal Family, homœopathy became a topic, and the doctor waxed eloquent in its praise. 'Well, Dr. Walker,' said one of the princes, 'at any rate you have the courage of your opinions.' 'No, your Royal Highness', said Dr. Walker, 'I have nothing of the kind; I have the courage of my **FACTS**.'" If the prince had said 'courage of your *convictions*,' instead of 'courage of your *opinions*,' perhaps Dr. Walker would have had nothing to say. Conviction can only proceed from the observation of positive facts which subdues the mind into a belief of their reality, whereas opinion is based upon mere inferences or *à priori* considerations. "The failure to apprehend the distinction," rightly observes Dr. Clarke, "lies at the root of all the persecutions which have disgraced, and still disgrace, the history of medicine, and most of the squabbles which have subdivided the different schools into smaller sections."

Dr. Clarke points out in the beginning the difference between the old and new school materia medica, how the one is based upon single symptoms and the other upon all the symptoms which each drug can produce. "The allopathic school is always on the look-out for specifics for *diseases*.....Drugs are classified according to some leading features of their general actions. A large number of them are "anti" something or other, *e.g.* :—antiseptics, antiperiodics, antispasmodics, antipyretics, anthelmintics, &c. ... The unfortunate part of this arrangement is that there are so many of them in each list, and no indication to tell one which to select for any particular case. Now this is where homœopathy steps in. The two-sided action of a drug—its power to cause a condition in the healthy like that which it can remove in the sick—provides a clue by which may be found a remedy for any phase of any *case*. Homœopathy has no specifics for *diseases* in the abstract, but it affords the means of finding *the specific* for any *case* of disease." •

He then points out how the remedies are to be selected, citing

instances of the use of *Repertories*, as "no head is big enough to carry all the millions of symptoms caused by the thousand odd drugs in the *materia medica*." But he shows also that there are cases,—and they are the most ordinary cases where the dominant school is in a funk and causes mischief by over and violent dragging,—in which homœopathy proves a blessing especially for the infant world; cases in which "homœopathy is capable of a good deal of generalization; if it were not so, the labor and difficulty in practising it might put it beyond the reach of ordinary mortals;" cases, for instance, which "if *Aconite* did not clear up *Belladonna* was at hand to help; and if anything was left by these two great pathological peace makers, *Chamomilla* was certain to make the job complete."

Dr. Clarke very properly makes a few convincing remarks on the dose and preparations peculiar to Homœopathy, and justly says that Hahnemann's discovery of the process of drug attenuation is second only in importance to his discovery of the homœopathic law, and that medicines instead of losing their curative powers, in many cases actually gained in curative power the further they were carried from the material form. Like a true physician he concluded with the following sound observations:—

"Homœopathy does not pretend to be the *only* method of finding out indications for drug action. There is accumulated in the works of the old herbalists an immense fund of therapeutic knowledge; and Hahnemann had in Paracelsus and others his forerunners in the discovery of specifics. But his work has thrown new light on all that was done before his time, and has rescued from the oblivion to which modern scientific conceit imagined it had consigned them, the treasures left by true observers in the past.

"Nor must we forget the folk-lore of races we call uncivilised. Observations of kaffirs, of negroes, and of North- and South-American aborigines—to name only a few—have provided the initial knowledge of many precious remedies, largely elucidated by eclectic practitioners, and many of them introduced into homœopathy and proved by Hale and his helpers.

"Hahnemann has not only rescued forgotten treasures, but he has thrown such light on all that they have become a new power in the hands of his followers such as the observers of old had little conceptions of. But true observation of Nature always stands good, and in our appreciation of Hahnemann we need not forget the seers whose broken lights he has focussed into one enduring constellation."

EDITOR'S NOTES.

Statistics of Vaccination under the New Act.

We learn from the President of the Local Government Board that 331,438 certificates of exemption under the conscience clause of the English Vaccination Act of 1898 were received by vaccination officers down to 30th June 1902.

Cocoanut for Tapeworm.

The use of the common cocoanut for tapeworm is not generally known. A writer in the Medical Summary advises the eating of cocoanut to the exclusion of all other diet for two or three days. He claims that the worm will come away entire in every case without the use of a cathartic. If this simple measure be found available, it will be an important addition to the therapeutics of this condition.—*Hahnemannian Advocate*, Sept., 1902.

How to Study Medical History ?

Dr. Dejerine, the new Professor of the History of Medicine in the Paris Faculty of Medicine concluded his inaugural lecture on the subject with stating the methods by which it should be studied (*Brit. Med. Journ.*, Nov. 22). He offered a choice of several methods. For instance, the teacher may set forth the succession of doctrines in chronological order : or he may take one of these doctrines and study its origin and its evolution ; or he may sketch the life-work of all the men who have helped to make the science of medicine, indicating their influence on its progress ; or, lastly, he may confine himself to one organ or group of diseases, and study its history. The last is the method which M. Dejerine proposes to adopt, and he has chosen for his subject the history of the brain and its diseases.

Boric Acid Dangers.

The employment of boric acid for the preservation of food, and more especially of milk, has been prohibited in Germany by a governmental decree. This action was in consequence of a report by the Imperial Bureau of Public Health, of a series of observations made by one of the officers of that department on himself and four of his subordinates. The details of the investigation were worked out under all due precautions, and, of course, with the greatest accuracy and thoroughness—no less than 12 experts in physiological chemistry being employed on the metabolic problems involved. It was found

that boric acid is eliminated very slowly from the body, and even after a single dose traces of the drug can still be found eight days later in the secretions. Hence it rapidly accumulates in the system, so that even small daily doses taken for a few days may produce serious results, more especially in the case of children.

In this country, boric acid, being regarded not only as a good antiseptic, but as absolutely harmless, is popularly used for the washing out of the mouth, nose and throat, and sometimes even of the stomach, with a freedom and frequency which may lead to serious disturbances in delicate individuals. Some years ago, chlorate of potassium was commonly abused in a similar manner. Boric acid is a less dangerous agent, yet persons over solicitous about local cleanliness, might incur, from its incautious employment, a risk against which they should be warned by their physicians.—*Medical Times*, December, 1902.

What Homœopathy Needs.

What we need most is a *Reformation not a Reproving*. The immense bulk of our present materia medica is a check rather than an incentive to the introduction of new drugs. We have already too many partially proven and not-at-all-confirmed drugs. Why add to the number?

There are at present some twelve thousand practitioners engaged upon the reconfirmation of the drug symptoms as now recorded. There have not been twelve good provings of a useful sort in the past twelve years. Why waste further energy, time and money on this elusive proposition?

These twelve thousand reconfirmators are urged by fame, by scientific skill, by bread and butter demands to make their work good. The reprovers are urged by fame, by science, and held back by bread and butter demands; which side will gain most ground?

No one wishes to make himself sick by the experimental use of drugs. The whole business is much like volunteering in time of war; only the very patriotic and the very thoughtless volunteer; so with drugs; we prefer to try them on those in whom we have but slight interest—to let our wife's cousins enlist, as Josh Billings said.

Hence we return to the place from which we started; what we most need in the present is not a reproving of drugs but a reconfirmation of recorded symptoms.

The rejuvenation of therapy according to similars demands this sort of work. Year by year it is dropping back because we let these golden grains slip carelessly through our fingers.

What is wanted, is a comprehensive practical plan for gathering them together, preserving them, and rendering them available.—*Hahnemannian Advocate*, Sept. 1902.

"Movable Heart."

• Normally the apex beat of the heart moves in relation to the chest wall to a slight degree, and it may be taken that a displacement of half to three quarters of an inch can occur when the subject turns on to the left side, without any abnormal movability of the organ being present. Leusser (*Munch. med. Woch.*, July 1st 1902) makes some remarks on the pathologically increased movability of the heart, which is known under the name of movable hearts or cardiopptosis. Among a clinical material of about 400 patients he has come across this condition 6 times. The patients complained of nervous symptoms, such as palpitation, feeling of oppression, and inability of lying on the left side. In all cases no organic changes could be made out, and the cardiac dullness was of normal dimensions, but the apex beat, which was in the usual situation inside the nipple line, when the patient was in a lying (dorsal) or upright position, became displaced to the left, even as far as the anterior axillary line when the patient turned over on the left side. He says that it is extremely difficult to make certain of abnormal movability of the heart to the right when the patient is turned on to the right side, because the sternum always overlaps the limit of dullness. The patients were all very nervous people, and the symptoms were of the nature of neurasthenic complaints. In discussing the probable causes of the condition, he mentions that, according to Rumpf, in marked wasting and especially during "reduction cures," the heart becomes abnormally movable on account of the disappearance of pericardial and abdominal fat. With regard to treatment, he says that although one cannot cure the condition, most of the symptoms can be removed by feeding up and paying attention to the general neurasthenia by baths, rest (bodily and mental), and at the proper time mild walking exercise.—*Brit. Med. Journ.* December 6, 1902.

The Suckling of Infants by the Mother.

For social and economic reasons mothers in all classes of society show an increasing tendency to neglect the direct maternal responsibility of suckling their offspring and the medical profession tend to acquiesce in this, at the same time studying more carefully the natural food of infants and endeavouring more closely to copy it in the pro-

duction of artificial diets. This improvement in the methods of hand feeding no doubt largely accounts for the decrease, if not the almost complete disappearance, of that somewhat dubious expedient, the wet-nurse. Nevertheless, it should be more generally recognised and insisted upon that, after all, methods of feeding other than suckling by the mother are expedients and inferior except in the case of disease or debility. The healthier appearance and diminished liability to infantile dyspepsia and gastro-enteritis of breast-fed babies compared with those artificially fed are familiar to every medical practitioner and it is surely a duty to point out those advantages and to protest against the too ready adoption of hand-feeding unless cogent reasons exist. Moreover, under the above title Dr. Capaldi points out that the normal process of suckling may sometimes prove of distinct advantage to the health of the mother, especially in the case of weak and nervous women, in whom in consequence of the more liberal diet necessitated and the occupied condition of the mind an improvement in general health may result. It is further worth considering whether, if mothers more generally maintained the natural relations to their offspring, less might not be heard of cruelty or neglect and the work of the useful society for Prevention of Cruelty to Children might not be appreciably diminished. In the interesting paper quoted above Dr. Capaldi discusses the effect of diet and drugs on the secretion of milk. The lactating mother should abstain from all strongly aromatic articles of diet, both animal and vegetable, such as game, asparagus, and onions. Of drugs, saline purgatives, salicylate, iodide and bromide of sodium, mercury, iodoform, antipyrin, and phenacetin readily appear in the milk when taken by the mother, while opium, morphia, chloral, and atropine only appear after large doses facts to be remembered in the administration of drugs to the mother during the period of lactation.—*Lancet*, Dec. 13, 1902.

Atmospheric Nitrate.

The nitrogen of the air is apt to be regarded as serving the mere purpose of a diluent possessing no direct utility. When a method is discovered which succeeds in fixing this nitrogen, converting it into ammonia or nitric acid for instance, we may wonder whether any appreciable effect upon the world's supply will be apparent. After all the starting-point of nitrogenous compounds is atmospheric nitrogen, but natural processes by which the assimilation of nitrogen is brought about are slow. Thus if the soil depended upon a flash of lightning creating nitrate for its source of fertilisation it would be

hopelessly barren. The action of lightning upon air is merely that of intense heat—the nitrogen is raised to its combustion point, it burns, and nitrous or nitric acid is the result. Hence the rain of a thunder-storm contains nitric and nitrous acid which form salts with the alkalis of the soil. Sir William Crookes, in his remarkable presidential address to the British Association for the Advancement of Science in 1898, suggested that the world's supply of wheat would some day fall short owing to the lack of fertilisers. Taking a lesson from natural phenomena he proposed to employ great natural forces as for instance the Niagara Falls, for the production of electrical current of the same intensity as lightning. The idea has been realised in practice and in the neighbourhood of the Niagara Falls large quantities of nitrates are being made from the air by burning its nitrogen in the presence of oxygen in the intense temperature of the electric flame. The importance of this achievement can hardly be estimated. It promises to relieve us of all anxiety in regard to the failure of ordinary natural supplies of nitrogenous fertilisers. It suggests a solution of the food problem, but at the same time, while it promises plenty, oddly enough, the method is obviously available for the manufacture of dynamic compounds and thus the materials for the supply of powerful explosive would be infinite. But there are those who urge that such a state of things would insure peace.—*Lancet*, Nov. 22, 1902.

The Determination of Sex.

The *British Medical Journal* of 1st November contains an article on the very interesting problem of the determination of sex. Our contemporary says that during the past 200 years, no fewer than 500 theories have been propounded on this subject, and that the majority of these, if not the whole, are in all probability entirely without any foundation in fact. The observations of recent years, and more especially those of Beard, Bessels, Boveri, Farmer, Guignari, O. Hartwig, Hacker, Moore, Meves, von Rath, Ruckert, Strashburger, Weismann, and others, all tend to the conclusion that sex is pre-determined before the embryo begins to exist, and to quote Beard's words, 'any interference with, or alteration of, the determination of sex is absolutely beyond human power.' Our contemporary thinks that the opinion that a new organism is produced by the union of germ cells of different sexes, is no doubt correct, but that the organism does not produce the germ-cells, but is only a nidus in which the germ-cells rest before they proceed to the production of the elements of new germ-cells: the organism may be an important nidus, all-

necessary for the continuance of the germ-cells, but it has no direct influence on the character or capabilities of the cells. The exact period at which sex is determined has not as yet been discovered. The researches of Beard and others seem to shew that of the thirty-two cells produced by the first five divisions of the fertilized ovum, one becomes a primitive germ cell, and the others are utilized for the formation of the membranes and appendages by means of which the embryo about to be formed is nourished and protected. The primitive germ cell divides simultaneously with the further divisions of the non-germinal cells, and in this way the number of the products of the primitive germ-cell, which are known as primary germ cells, become 2, 4, 8, 16, 32, 64, 128, 256 &c.

One of the primary germ cells continues to divide and its descendants form the embryo. The remaining primary germ cells become the germ cells of the embryo. As a rule, they accumulate near the foot of the mesentery in the germinal ridge, and ultimately they are enclosed in the ovary or the testicle. They may wander, however into other parts, and those which thus leave the ordinary path may, and usually do, degenerate and die, but some continue to exist, embodied in the tissues, and these may suddenly become active, and give rise to tumour formations of the dermoid type. The primary germ cells which reach the germinal ridge of the embryo, enjoy a longer or a shorter rest, and then they undergo two divisions. All the descendant of the germinal cells of the testicle become spermatozoa, and all the descendants of the germ cells of the ovary takes place, and it is not influenced by fertilisation. How it is determined is not yet known, but the determination seems to take place with the loss of chromatin substance which proceeds or accompanies the formation of the polar bodies. The ovum unites with the spermatozoon after the sex is determined, and the result of the union is new primitive germ cell, with which the cycle recommences.

Chair of Homœopathy in the University of Wurtzburg.

In our last issue we had the pleasure of announcing that the Bavarian Chambers had resolved to institute a Chair of Homœopathy in one of the Universities, but we were not informed as to which University was to have this honour conferred on it. We now learn from the Berlin correspondent of the *Morning Leader* that the Chair of Homœopathy is to be in the University of Wurtzburg. The correspondent of the *Morning Leader* says: "The choice of Wurtzburg is remarkable, as it is from this University that the strongest oppo-

nents of homœopathy have come. The Bavarian Government has promised the necessary funds." No piece of news for long has rejoiced our hearts so much as this. Nothing is more fitting than that Germany should thus recognise in this manner one of her greatest sons—Samuel Hahnemann—after over a century of neglect, opposition, and obloquy. He has been such a benefactor to the whole world that, though a son of Germany, all nations are proud to recognise in him one of the very greatest geniuses that ever lived, a genius who discovered the great law of similars, and who, not content with mere speculations on the newly-discovered law, developed the system of treatment based on it so perfectly and practically that what he wrote and said is as fresh and "up-to-date" to-day as when he lived, wrote, and practised. He was far ahead of his time, and has revolutionized the practice of medicine; and the time will come when the entire profession, and, following their lead, the entire lay public of the world, will unite in placing Hahnemann on a higher pinnacle of fame than any other of the great men of medicine.

We sincerely and warmly congratulate the Bavarian Government and the University of Wurtzburg on this great step in the cause of scientific medicine. No fact could more clearly prove how certainly in spite of long and bitter opposition, truth must prevail, and how homœopathy in Germany has so steadily won its way. It can no longer be styled by our opponents a "dying faith" or actually "dead"; on the contrary, a new lease of life and vigour is now opening out for it. To have the official *imprimatur* of the Bavarian Government and of the University of Wurtzburg is an enormous gain, as every one knows its value and meaning.

We only wish that in this country we could see signs of similar action on the part of the Government and of the Universities. Such must come sooner or later, and we hope it may be sooner than we are sanguine enough to expect. Meantime, with the encouraging action of Bavaria and Wurtzburg, let us not slacken our efforts to fight openly and fearlessly for the truth, but rather redouble our activity in propagating the grand system of homœopathy, so as to hasten by all means in our power the day of its triumph as the dominant practice in the profession.—*Monthly Homœopathic Review*, Oct. 1, 1902.

The Influence of Air on the Sense of Smell

The sense of smell is undoubtedly much more keen in fresh energising air than in stale or polluted air. A pipe of tobacco when smoked in the open fresh air, and particularly on a bright day with a sharp

easterly wind blowing, is peculiarly fragrant; the effect is enhanced by ozone and tobacco smoke in the presence of static electrical apparatus develops a very agreeable aroma. It is well known, again, that persons in a crowded room are oblivious of the foulness of the air until they go outside and come in again. A person entering the room from the fresh air outside at once complains of stuffiness. There would seem to be a subtle connexion between an abundance of air and the sense of smell. A trace of scent is agreeable, an excess is sickly, some scents or flavourings being positively nauseating when in the highly concentrated state. The artificial oil of jargonelle in bulk smells more like garlic than the jargonelle pear, but a mere trace of the oil diffused in the air gives a smell indistinguishable from that of the fruit. The offensive smell of sulphuretted hydrogen is more marked when the gas is freely diluted with air than when it is not so diluted. The pure gas seems to possess hardly any perceptible rotten egg smell at all but a sweetish odour not unlike that of chloroform vapour. These observations would tend to show that smell is in some way connected with the presence of oxygen and that in the absence of this element odour is no longer perceived. In an atmosphere free from oxygen it is just possible that odours would not be observed and it is probable that the smell of a substance is due to a change brought about in that substance by contact with oxygen. In our columns this week a correspondent relates an instance in which people living some distance away from a sewer ventilator complained of the foul nature of the emanations from it, while the engineer in charge declared that he had tested the discharge at the pipe itself and had found no perceptible odour. This seems to be another case in which smell was not in evidence at the sewer outlet because of the grossness of the impurities, but by the time the gases had travelled some distance—that is, after being freely diluted with air—their latent offensiveness became actual. In the same way the scavenger in the sewer experiences no disgust while the man standing over a street ventilator may be overpowered with the offensive smell. While, however, the first effect of the oxygen of the air upon sewer gases would appear to reveal odour, yet ultimately oxygen triumphs and going a stage further reduces offensive matters to an innocuous and inodorous state. —*Lancet*, Nov. 1, 1902.

Practitioners Old and Young.

In the course of an address upon Chauvinism in Medicine, delivered to the Canadian Medical Society at Montreal, on September 16th,

Professor William Osler insisted upon the difference between knowledge and wisdom in medicine. After stating his conviction that all that college could do for a man was to start him in the right direction and give him proper methods of work, he pointed out the danger which a young practitioner runs of losing his familiarity with instruments of precision owing to lack of material, and said: "I wish the older practitioners would remember how important it is to encourage and utilize the young men who settle near them. In every large practice there are a dozen or more cases requiring skilled aid in the diagnosis, and this the general practitioner can have at hand. It is his duty, and failing to do so he acts in a most illiberal and unjust way to himself and to the profession at large. Not only may the older man, if he has soft arteries in his grey cortex, pick up many points from the young fellow, but there is much clinical wisdom afloat in each parish which is now wasted or dies with the old doctor because he and the young men have never been on friendly terms." There is no doubt that a latent antagonism does often exist between old and young practitioners. The older man is apt to look upon the systematic use of such instruments as the sphygmograph as an impressive prelude to the prescribing of digitals, and complacently to thank Heaven that his fingers are sensitive enough to judge a pulse withal. The man fresh from hospital is certainly too ready to regard his successful senior as out of date, and, indeed, to think most general practitioners incompetent. With very little persuasion a young man may be brought to see that he can learn much from men outside his college and his hospital. He can learn, for instance, how to obtain the best possible proportion of a loaf where the conditions of his practice make the whole impossible; he can learn if he will, and must learn, if he is to succeed in his profession, that his patients must be treated no less sympathetically as human beings than scientifically as cases; and, not least, he can be taught how to recognize and treat simple ailments, which are not often seen in hospital wards and have not usually been discussed at length by his professors. But it is no less necessary to insist, as Dr. Osler insists, that the young man may act as teacher as well as pupil. Many men, whose cerebral arteries are perfectly free from atheroma, will not take advantage of more recent knowledge, of which, after all, their young neighbours are only conductors. Unfortunately, the beginner is too often regarded as a poacher, and in his turn, after a cool reception, grows more anxious to "dish" the old than to seize his opportunities of increasing his knowledge and getting wisdom. Competition is responsible

for mutual misunderstanding and distrust, which are less in proportion to the sympathy of the senior and the modesty of the junior. The public, however, has the right to the best advice obtainable, and the more frequent and cordial the co-operation between neighbouring practitioners, the more stringent will become the etiquette of the profession, and infinitely the more pleasant its practice.—*Brit. Med. Journ.*, Oct. 18, 1902.

Gestation of Ten Months in a Fibroid Uterus.

A married woman, aged 36, whose menstruation had stopped on the 21st December 1901, went to Dr. J. Oliver, of Gordon Square, London, on the 19th February last, to know whether she was pregnant. Her hypogastrium was found occupied centrally by a swelling which extended from the pelvis to 3 in. above the pubes. The cervix was softish, and the hypogastric swelling happened to be the enlarged uterus with a fibroid of about the size of a small tangerine orange in its right half. The breasts were in appearance characteristic of pregnancy. Towards the end of April the movements were first felt. The woman was confined on October 21st, that is, on the 305th day after the cessation of the last menstruation. The child, a female, was doing well in December last. The December period, which occurred about the correct date (20th), continued for two days only and was more scanty than usual.

Surgical Intervention in Cerebral Haemorrhage.

Lambotte (*Ann. et. Bull. de la Soc. de Med. d'Anvers*, July-August, 1902) reports two cases of cerebral haemorrhage treated by trephining with a view to evacuation of the clot. In the first case a haemorrhagic cavity was exposed in the right parietal lobe, and several clots mixed with detritus of cerebral substance were removed, the operation resulting in a rapid and complete cure. In the second case a clot could not be found, but the patient gained considerable benefit from the relief of intracranial pressure due to the exploratory trephining. The author, in discussing the question of surgical intervention in cases of cerebral haemorrhage puts on one side the proposal to ligature the common carotid. The benefit to be derived from this operation he holds to be illusory, as it cannot influence existing lesions, and whether it can do good in preventing renewed haemorrhage has not been proved. Moreover, it is undoubtedly a grave procedure and may by itself cause death. In the author's opinion the surgeon should endeavour to expose by trephining the seat of

haemorrhage, to suppress cerebral compression by removing the clots, and also to prevent or overcome infection of the attacked portion of brain by drainage. The cranium, it is suggested, should be trephined over the fissure of Sylvius. The dura mater, having been exposed by an orifice from 3 cm. to 4 cm. in diameter, should be incised, and the brain punctured by an exploratory needle in the direction of the internal capsule. If a haemorrhagic focus be discovered it should be exposed by incision of the cerebral substance and the cavity be freely laid open and drained by gauze. This operation will, it is stated, often remain simply an exploratory one, and in many cases as for instance those of abundant effusion and ventricular and bulbar haemorrhages, such treatment, the author acknowledges, will be quite useless. In certain cases, however, life may be saved by exposure of the region of haemorrhage, and the mode of intervention proposed by the author is held to be free from risk.—*Brit. Med. Journ.*, Dec. 6, 1902.

CLINICAL RECORD.

Indian.

A CASE OF TOOTHACHE.

By DR. HEM CHANDRA RAY CHAUDHURI, L.M.S.

Babu required my help to relieve him of his toothache, of one of the left lower molars on the 26th September 1902.

On examination, no swelling of the gums around the tooth was discovered. The aching was confined to its root. It was not carious. *Plantago* 1x was prescribed. After taking that medicine he reported that he was doing well.

About a fortnight after he again came to me complaining of pain in the teeth of the whole lower jaw, sometimes on the right side, at other times on the left, occurring particularly during his return from office after 4 p. m. The pain could be relieved by warm fomentation. As this pain resulted from the cold wind of October, the commencement of the winter season, I thought of prescribing *Rhus* Tox.

On consulting Allen's Hand Book of *Materia Medica*, I found under *Rhus* "Tearing better from hot applications." Clarke's Dictionary of Practical *Materia Medica* gave the following symptoms. "Toothache as from excoriation, or with tearings, shootings, jerkings, digging, and tingling, frequently at night, or worse in open air and better by external heat (and in warm room), sometimes also in consequence of a

chill." Jahr's Symptomen Codex has the following: "Darting toothache at night at ten o'clock; the dartings struck into head, and were relieved by pressing on the parts with a cold hand."

Depending on recent experience, I prescribed Rhus Tox. 6x. After using the medicine for two days, he was glad to report of the relief of the distressing trouble.

Remarks.

Relief of toothache by warm fomentation or application and the pain arising from cold or chilly wind are the characteristics of Rhus Tox. The opposite symptom, relieved by pressing on the parts with a cold hand, requires clinical confirmation.

The pains of toothache are generally described in Bengal by the word कनकन, (kan kan) unless some significant symptom as darting up or down or on the sides takes place. कनकन can only be described by aching. I think it includes tearing, shooting, jerking, digging and tingling.

Foreign.

A CASE OF LABIAL ULCER CURED BY PHYTOLACCA.

By HENRY NEVILLE, M.D., Jamestown, N.Y.

Miss B., aet. 24, tall, well formed, vivacious, well educated and seemingly in good health, save that on the margin of her upper lip was a sore of nine month's standing, which in spite of care and many, various trials and the best advice she could secure, refused to heal.

The center of the sore was depressed about two lines—of a dark color and glistened like pearl.

A drop or two of thick, grayish pus was discharged from the sore each day.

The scab was hard and the sore quite sensitive.

As the lip was swollen and hard, the sore was three-eighths of an inch in breadth and three-fourths of an inch long.

The sub-lingual gland on that side of the lower jaw was swollen and hard.

No other indications of ill health could be secured.

Phytolacca 3x, four doses daily, and to apply Phytolacca oerate every evening.

Result; Next week she went to Duluth. Have heard from her twice in the last four months, each time reporting improvement and the last time that the glands were much smaller and softer, and that the sore was healing without a scar. Was it cancerous? [Not cancerous. The cerate was unnecessary and uncalled for.—Ed.]—*Medical Advance*, November, 1902.

A CASE OF INSANITY CURED BY LACHESIS.

G. E. DIENST.

A farmer came to me in the spring of 1900, and complained bitterly of the deportment of his wife now growing old, attributing her peculiar actions to mere meanness and jealousy. For some years she had kept the family—a large one—in a state of turmoil, and uncertainty as to what might happen. These “spells” always being worse in the early months of the year, March, April and May, and at the time of the farmer’s visit to my office [in June], matters had about reached their limit. This poor woman moaned about the indifference of her church friends towards her, and daily upbraided her husband for a supposed love he had for his daughters more than for her; with such a spirit in the home there is little peace.

As to her physical ills there is not much to say. She complained at times of severe occipital headache often extending to the vertex. This headache was usually worse in the morning, though it often remained with her all day.

The woman had passed her climacteric, and, apart from this headache and occasional twinges of rheumatism, was in a fair state of health. There were no pathological changes discernible, her appetite was fair and bowels regular.

I prescribed for her, but made the very common mistake of changing remedies too soon and repeating too frequently, trusting to luck rather than to well established laws in the treatment of this case. The result was patch work with very little palliation until the changing seasons brought about the usual amelioration.

In the month of April, 1901, her husband came again and with tears in his eyes complained bitterly of his wife’s temper and jealousy. He then spoke freely and frankly of sending her to an insane asylum, for he began to think she was rapidly going insane. She had already made some fruitless attempts to leave home, without any apparent cause, except the morbid idea that her husband and children were opposed to her and wished her in some other part of the world. I knew this to be erroneous, for her husband is disposed to be rather indulgent, and her children very obedient.

I requested the husband to bring his wife to my office and I would try to effect a reconciliation. In a few days she came and appeared to be somewhat surprised that family matters should be presented to the physician. She was right in all things, but her family and church were in error and must apologize for wrongs committed against her, though she could name no direct breach of domestic or ecclesiastical

decorum. But she was not always in this morbid state of mind, was so at certain seasons only, then afterward she seemed to feel badly for the thoughts she had had, and the words she used. In her sane moments she was all that could be desired in a wife and mother.

She was of medium height, rather sparely built, of sallow complexion, dark hair and blue eyes and during these attacks had a black expression.

After looking her over carefully, I concluded that the less said the better. I assured them both that matters would soon be better, for storms do sometimes arise, but do not last always.

Lachesis seemed so clearly pictured in her case that I gave her a dose of the cm potency on the tongue and a liberal *Placebo* to take home with her.

In a few weeks the husband returned saying that, apart from the first few days after taking the medicine, she was improving every day. They had now less discord, and she said little about her supposed enemies. A *Placebo* was again administered and I saw the woman no more until the winter of 1901 when I prescribed for a slight attack of rheumatism. When spring came this year I supposed her troubles would return, but heard nothing until the month of July when her oldest daughter came to see me on her own account and remarked, "Mother has had no trouble since you gave her that little medicine last spring. It doesn't seem possible that so little medicine can do so much good."

This was a case of periodical insanity, and in a few more years it would have been continual. There was no attempt at suggestive therapeutics for the reason that, having made a failure the year previous I preferred to rest wholly upon the efficiency of the indicated remedy. What it did has been told, and though I see some one or more of the family each week not a word is said, as there used to be, about the mother's peculiarities.—*Hahnemannian Advocate*, September, 1902.

Glennings from Contemporary Literature.**A FEW THOUGHTS ON HOMŒOPATHY.**

BY AUGUST KORNDORFER, M.D., PHILADELPHIA.

(Read before the Philadelphia County Homœopathic Medical Society,
October 9, 1902.)

During the past few decades we have heard much criticism of homœopathy ; its truths ; its so-called fallacies ; its assumed errors ; its many shortcomings ; its merits as a method of practice ; its rights to a place as a school of medicine. From the general tenor of these criticisms one might be led to infer that the fundamental truths first defined and expounded by Hahnemann had already served their purpose ; that later discoveries had rendered them obsolete ; and that time was now ripe for their subordination to a new order of things medical ; in fact, that Hahnemann and his teachings were fit only to be relegated to some obscure place in history. One, prominent as a teacher, recently remarked, "Homœopathy is a dead issue." Yet this same physician has the audacity to hold membership in societies bearing the name !

But, *is* homœopathy a dead issue ? Are its generic principles obsolete ? Has the art and science of medicine advanced on lines so diametrically opposed to the law of similars as to give any reasonable ground for such assertion ? To these queries every intelligent physician who has given thought to the subject must answer most emphatically, "No." In fact the very opposite condition obtains ; every advance in medicine has brought the profession nearer to the acceptance of Hahnemann's teachings. The self-constituted critics and reformers who thus have endeavored to detract from the honor due to the founder of homœopathy boast of their freedom from medical bias, and prate loudly of liberty of opinion and action ; they nevertheless prove, by their methods, that they lack both the knowledge necessary and the perspicacity essential to just criticism.

We do not underestimate the value of criticism, nor the importance of liberty in both opinion and acts ; but when such liberty fails to be controlled by law it tends toward professional anarchism, and becomes a menace to the well-being of both patient and profession.

Nor do we underestimate the educational value of doubt. Doubt that acts as an incentive to philosophic investigation must be fostered. Such doubt never elids in unbelief ; it leads on till dismissed by knowledge. Certitude is the very life of science, for science recognizes no tenable middle state between truth and error. Eclecticism, that middle-of-the-road method, which in medicine so often masquerades under the honorable title of homœopathy, has doubly wronged our school—actively, by implanting error ; and passively, by discouraging real investigation. Eclecticism, strictly speaking, has no legitimate place in science. Its sphere is found in history and the philosophy of history alone.

Every honest searcher after scientific truth must recognize the necessity for law ; and, as law obtains in every other department of nature's work,

we, by analogy, must assume that medicine forms no exception. Here, too, law must reign. In the search for truth, methodical experiment guided by definite principles must in every case be our final court of appeal. Law must decide.

Hahnemann recognized this, and wrought with this thought ever in mind. It made the steps of his progress sure. With what confidence he appealed to the profession that they make experimental tests of all that he taught ; "Machts nach aber machts recht nach" was the ground of trial and acceptance that he himself proposed. Test it, but test it accurately, and let it stand or fall in accordance with the response that nature thus will give. This was his challenge, and a hundred years of practice has proved him right.

Hahnemann was invariably right with his facts, and in his practical deductions from those facts ; but when he attempted theoretical explanations, the influence of the philosophy of his day necessarily manifested itself, and he ran more or less into error. However, of such explanations Hahnemann himself says : "I attach no value whatever to any explanation that could be given." "As this therapeutic law of nature clearly manifests itself in every accurate experiment and research, it consequently becomes an established fact, however unsatisfactory may be the scientific theory of the manner in which it takes place." He held the theory in the light of a non-essential.

On this point Hering, in the Preface to the American edition of the *Organon*, says : "Whether the theories of Hahnemann are destined to endure a longer or shorter space, whether they be best or not, time only can determine ; be it as it may, however, it is a matter of minor importance."

Theories afford reason, means, for the discovery of the possible relationship between phenomena ; through them working hypotheses are elaborated, and investigation thus facilitated ; they prove useful, as aids, in the utilization of facts, and for this purpose their employment is not to be deprecated.

It is the bounden duty of the physician to thoroughly fit himself for his chosen profession through a comprehensive knowledge of the theory of medicine ; this, however, does not conflict with the principle that "the practice of the art should be based upon the solid foundation of demonstrable facts."

In reasoning upon the relationship of observed phenomena, theories may be utilized as stepping-stones to legitimate conclusions ; but in practice theories must ever be subordinate to facts.

Hahnemann set the example in his own life and work ; we can do no better than faithfully follow the course he pursued. He deprecated theorizing, but not investigation and research ; *a priori* conclusions, but not logical reasoning. He wrought, in full agreement with the axioms "Every phenomenon must have a cause" and "Every phenomenon must have a law."

His search for law necessitated theory, but he never permitted theory to govern the practice of the art. New modes of investigation and new fields for exploration were prompted thereby, but the discovery and establishment of the governing law was ever the objective point. This is markedly illustrated in his search for the reason of his failure to cure chronic non-venereal diseases. In his "Chronic Diseases," Dresden and Leipzig, 1835, he refers to this, saying that since the years 1816 and 1817 he had been occupied in efforts to discover the reason why the known homœopathic remedies did not effect a cure in these chronic diseases. Continuing, he says: "After unceasing meditation, indefatigable research, careful observation and most accurate experiments, I was permitted to solve this problem for the benefit of mankind."

In this we have Hahnemann's method typically manifested. A fault discovered meant with him a search begun. All these years he wrought without expressing, even to his dearest friends, a thought upon this to him momentous question, "because it is unwise, yea, even harmful, to speak or write upon things yet immature."

That Hahnemann was not invariably right does not in the least affect the validity of the law that he discovered. Darwin, that great and independent thinker, surely erred in some of his conclusions; he also failed to perceive certain of the relations underlying the facts that he presented. Likewise, he failed to perceive their far-reaching influence in fields remote from those gleaned by him. Nevertheless, these failures to grasp every detail or to appreciate the full scope of his discoveries do not militate against the facts he discovered, nor do they invalidate any law that he legitimately deduced. Neither does Hahnemann's failure to correctly theorize lessen the value of his discoveries nor impair the utility of the truths that he taught.

It is worthy of remark that Hahnemann early recognized what in later years Spencer and other noted philosophic thinkers have even more forcibly expressed, namely, "that the reality existing behind all appearances is and ever must be unknown." He deprecated the search after such unknown, because *unknowable*;—never so, however, the search after facts, nor yet the rational effort at deducing legitimate conclusions from such facts.

To illustrate how our latter-day philosophy upholds Hahnemann's views in this particular, permit me to quote the following few sentences from Spencer: "If," says Spencer, "respecting the origin and nature of things we make some assumption, we find that through an inexorable logic it inevitably commits us to alternative impossibilities of thought; and this holds true of every assumption that can be imagined. If, contrariwise, we make no assumption, but set out from the sensible properties of surrounding objects and ascertain their special law of dependence, go on to merge these into laws more and more general until we bring them all under some most general law, still we find ourselves as far as ever from knowing what it is which manifests these properties to us."

"Ultimate scientific ideas turn out to be merely symbols of the actual,

not cognitions of it." "The mind can conceive and consequently can know only the limited and the conditionally limited."

These views, concededly correct in other departments of philosophic research, apply just as forcibly to the search after the intangible in disease.

Hahnemann not only did not oppose the most exhaustive research, but on the contrary, he set the example, and led the way in the most radical line of investigation ever instituted in medicine.

Recognizing the irrationality of a search after some hidden mysterious cause of disease, he confined himself to a critical analysis of the cognizable evidences of diseases, namely, symptoms, signs and conditions discoverable by the physician, or appreciable by the patient or attendants. Had microscopy been an accessible means in his day, I doubt not he would have been one of the most ardent advocates of its use for diagnostic purposes. Illustrative of his critical research and wonderful powers of ratiocination, I will instance his views of the cholera contagium, published in 1831. His investigations led him to suspect the presence of a contagious material in cholera, which he described in the following words: "On board ships—in those confined spaces, filled with mouldy watery vapors, the cholera miasm finds a favorable element for its multiplication, and grows into an enormously increased brood of those excessively minute, invisible, living creatures, so inimical to human life, of which the contagious matter of the cholera most probably consists." Again, he speaks of "the invisible cloud that hovers closely around the sailors who have remained free from the disease, and which is composed of probably millions of those miasmatic animated beings which at first developed on the broad, marshy banks of the tepid Ganges." With such prescient insight of the disease-producing factor in cholera, I cannot conceive of a man of Hahnemann's temperament giving up the search, or stopping short of the actual demonstration, save from a lack of suitable apparatus wherewith to conduct the investigation.

Generalizations, save as the logical outcome of individualization, he abhorred; therefore, while recognizing a specific organism as the germ through which such disease is propagated, he also recognized specific phases of its manifestations, and quite consistently contended for individualization in the selection of the remedial agent.

Each drug, to him, stood as the representative of a discrete totality, peculiar to itself; differing in some particular from every other such totality. It alone was indicated in certain given complexes of symptoms in given conditions of disease.

Hahnemann first clearly differentiated the three only conceivable modes of therapeutic drug action, and he first demonstrated the relative value of each. Logically extending his deductions, always guided and guarded by experimental tests, he arrived at a solution of the problem in the confirmation of the symptomatically similar drug action as the only positive guide to the selection of the curative drug agent. The law he reduced to the verbal formula, *similia similibus curentur*.

That Hahnemann pursued an exhaustive research before he gave the

results of his labors to the profession cannot be disputed ; that he came to his professional brethren with his new-found knowledge in full faith of their rejoicing and co-operation is beyond question ; that his confidence met with ridicule and contumely, and that jealousy, hatred and persecution were his reward, is all too true. The principle of similars as a guide in therapeutics was derided. Elaborate and vituperative essays were written to show its absurdity and to defame its author ; and, finally, the united political influence of physicians and pharmacists was employed in the effort to effect his professional ruin. Notwithstanding all which, he, during these years of persecution, gave to the world that masterpiece of medical philosophy, *The Organon*, and those monuments of indefatigable research, "The *Materia Medica Pura*" and "The *Chronic Diseases*." In all this work scientific exactness was aimed at, and to a marvellous degree attained.

The law of similars, the single remedy, and the minimum dose that will cure, were the three especial factors upon which he laid stress. But, in addition to this, we must not overlook the fact that a more consistent and intelligent study of pathology was urged, and the importance of the symptoms and signs of disease as guides to the selection of the curative therapeutic agent was emphasized. All this was so diametrically opposed to the teachings of this day that we can scarce wonder at the slowness of understanding manifested by his professional brethren.

Acceptance of Hahnemann's teachings by the old school has indeed been slow, but it has been sure. Every feature accepted has followed upon some independent research by members of that school. The importance of the symptomatic expression of disease ; the recognition of the systemic involvement in even so-called local diseases ; the improvement in and greater appreciation of hygiene on lines advocated by Hahnemann ; and, last, but not least, the acceptance of Hahnemann's doctrine of the dual action of drugs, and the curative effects of small doses of drugs that in the healthy produce symptoms similar to those for which they are therapeutically prescribed, may be cited as among the most noteworthy. Closely allied to this latter should be noted their use of the nosodes in diphtheria, tetanus, typhoid, cholera, anthrax, etc. Many other changes are creeping in, which in the near future will bring their teachings upon therapeutics more nearly along the lines laid down by Hahnemann in the *Organon*.

The open advocacy of the dual action of drugs by the investigators in pharmacapeutics of the old-school marks an epochmaking event in medicine ; for, with this fact once adopted, the barriers separating the two branches of the medical profession will practically be removed.

That such result will surely follow we have abundant reason to believe. In fact, it is already foreshadowed in such articles as those published in Merck's *Archives* of August, 1901 and May 1902. In the editorial column of the August number we read the following : "It appears to us that one of the problems to engage the attention of the twentieth cen-

tury therapeutists and pharmacologists will be the action of drugs as influenced by dosage. This part of pharmacology has been neglected entirely too much. There are hundreds of drugs whose action not only varies under different dosage, but it is diametrically different. Ipecac in very small doses allays vomiting; in large doses it excites it. Cocaine in small doses excites the reflexes; in large doses it depresses them. In the case of a number of drugs it will, therefore, be insufficient in the future to attach a label: depresso-motor, excito-motor, emetic, etc. The different action in different doses will have to be stated." In the May 1902 number, the editor again calls attention to this fact, and quotes from the April *Medical Times* as follows: "This statement confirms what we have so often repeated, that the dual action of drugs should be taught in all medical schools, as then we should have not only an improved therapeutics, but also the annihilation of sects in medicine." "This question of dosage is the very foundation of the practice of medicine, and its solution and general adoption will prove the greatest boon to humanity. The physician who uses drugs only in larger doses, or in smaller, neglects one-half of the armamentarium which should be his. The indications which decide the dose are so diametrically different that it is easy for the student well versed in drug effects to apply his knowledge for the purpose indicated."

With such open acceptance of the curative action of small doses administered in accordance with the law of similars, we may confidently anticipate a still more general acknowledgment of the correctness of Hahnemann's views.

Thus, while some of the would-be leaders of our own school were adopting an apologetic attitude before the general profession, and were endeavoring to ape the methods of therapeutists who blindly denied the homœopathic law, the more advanced therapeutists of the old school were investigating, accepting and adopting the teachings of Hahnemann,—not, indeed, because they were of Hahnemann, but because they were of the *truth*.

This law of the neutralizing opposition of similars is so well recognized in other departments of physics that the opposition it has met in medicine is truly surprising. In the mechanical forces, in the sphere of dynamics, and in the psychic sphere, the same law holds. It is not surprising, then, that in medicine it has aroused such violent opposition?

But, comes the query do any of the later investigations in pathology shed light upon this question? To this I unhesitatingly answer, Yes, and will call your attention to a few of the confirmatory facts recorded in some of the latest works upon this important department of medicine.

Prof. Roger, in his recently-published "Introduction to the Study of Medicine," says: "The antiseptics, properly so-called, when used in minute doses, have the very curious property of stimulating the activities of microbes; under their influence the chromogenic bacteria produce a greater quantity of pigment. On increasing the dose of the antiseptic, we see the chromogenic power diminish and disappear; then vegetations grow slower, cease, and finally the microbe is killed."

Again, "A good many of the *chemical substances*, including those known as antiseptics, diminish the resistance of the tissues and favor the development of microbes. So the tendency is in surgery to substitute, more and more, asepsis for antiseptics."

According to W. H. Thompson, "the effect of intravenous injection of peptone differs according to the amount of the substance which is introduced into the circulation; if less than .02 gm. per kilogram of body weight is added, coagulation of the blood is hastened; but if more than that amount is added, coagulation is retarded." A similar peculiarity with regard to their action upon coagulation has been noted by Horne in the case of salts of the alkaline earths. He found that though coagulation does not take place in the absence of a soluble compound of one of these elements, and though the addition of a small quantity hastens coagulation, the addition of a greater amount than .05 per cent. retards the onset of coagulation." Again, it has been noted that, "though the specific gravity of the blood falls after the injection of a large quantity of normal saline solution into the circulation, it nevertheless rapidly rises again, and does not cease to rise until it has reached a higher level than obtained previous to the injection."

I might quote at length from the published observations of investigators who not only had no interest in the demonstration of facts that support the deductions made by Hahnemann, but who really are in active affiliation with those who habitually deride both Hahnemann and his doctrines. Time, however, forbids; therefore these few quotations must suffice.

The results noted surely furnish warrant for the belief that educated therapeutists of all schools will ere long recognize in the law of similars a therapeutic law of nature, and in it find, as Hahnemann affirmed, the only available guide to a correct system of curative therapeutics.

The acceptance of the law does not, however, complete our work; many problems still remain unsolved. Among these may be mentioned a more exact definition or delimitation of its sphere of action; the discovery and demonstration of its corollaries, its concordants, and its related modifying forces, if such there be. For, although a law in its sphere is universal, it must, as a law of nature, act in harmony with other related laws.

Much also remains to be done in defining exact lines of demarcation between drugs having very similar pathogeneses, also, in determining some definite principles relative to the subject of efficient minimum dosage. This work can and should be carried on in our hospitals and colleges, — but it needs thinkers.

These and other features involved in the development of Hahnemann's discoveries, though secondary in importance to the great central truth, will nevertheless afford brilliant opportunity for research, and practically illimitable scope to the reasoning faculties of the scientific investigator in the field of medicine.

Physiology and pathology are lending efficient aid in solving these and other important questions. To investigators in these departments of medi-

cine and to the painstaking work of the pharmaceutical chemist we may confidently look for many a happy solution.

Discussion as to the utility of the single remedy in comparison with the effects of polypharmacy is and has been occupying the attention of many therapeutists of the old school. At present, the single-remedy advocates number some of the brightest and most talented prescribers in that school.

The minimum dose remains an unsolved problem, being still in the empirical stage. Hahnemann's rule, *Organon*, §280, "The dose of all homoeopathic remedies, without exception, are to be attenuated to such a degree that after their administration they shall produce an almost imperceptible aggravation," fails to define quantity or potency, and practically leaves the matter to be determined in accordance with the personal experience and individual judgment of the practitioner.

The subject of infinitesimals still arouses much discussion, though here the believer in the Hahnemann potencies is decidedly on the winning side. Fifty years ago and less, the mass of scientific men laughed to scorn the homoeopath who expressed belief in infinitesimals; and even within the last two decades several learned investigators in our own school wrote lengthy essays upon the impossibility of getting curative action from even the twelfth decimal potency. Their argument was based upon the then accepted views of the atomic theory of matter. They argued that, as the atom is the smallest possible division of matter, and as the atom is a unit, simple and indivisible, therefore Hahnemann was wrong in his belief in the higher potencies. In refutation of this argument clinical facts were appealed to; but we were tauntingly told, "so much the worse for the facts."

Our learned friends' theses are still fresh in our minds, when behold! Science, that never respects persons or theories, ruthlessly upsets their learned reveries, and tells us that atoms may, indeed, as Dalton claimed, be "the only rational explanation of the laws of multiple proportion and combining weights;" but other and more recently-investigated phenomena make it probable that the atom "may in reality be composed of a great number of smaller parts." J. J. Thomson, from a study of the passage of cathode rays through gases, observed phenomena which led him to ask, "What are these particles of matter? Are they atoms, or molecules, or matter in a still finer state of subdivision?"

In explanation, Thomson speaks of these very small particles, or primordial atoms into which the molecules of gas are dissociated, as "corpuscles."

When we consider that the number of molecules in a cubic centimeter of gas, under normal conditions, may be six thousand million million, and that each molecule is composed of two or more atoms, and that each atom may be composed of a great number of smaller parts, you may readily perceive that already the division is increasing to quite Hahnemannian proportions. And it doth not yet appear what it shall be.—*Hahnemannian Monthly*, Nov. 1902.

MICROBES AND COMMON SENSE.

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If one was to speak of everything which has been discovered and is interesting about microbes, it would take at least a month. If he was to speculate on all we do not know, but would like to know, it would take a year. It is evident, therefore, that, although a microbe is small, it is of more consequence than many larger things.

Should it be found that the title does not fit the rest of my paper in a perfect way, I must claim the same indulgence which all men accord to the legal and clerical professions. Everything must have a starting point, and the lawyer to commence proceedings, is obliged sometimes to bring into court those notorious imaginary rascals, John Doe and Richard Roe. In a similar way the preacher must find and announce a text. We have heard a story of a certain divine who was taken to task by a member of his congregation in this way: "Dominie, I have no fault to find with your sermons, but you never stick to your text."

"My friends," replied the preacher, "I always find that my best sermons are the ones in which I use the text as a point to start from."

The study of microbe-organisms is one of the most fascinating occupations. For the greater part of our knowledge concerning them we have to depend upon the labors of those who are in a position to devote their whole time to the subject, and who are provided with elaborate paraphernalia. Even this second-hand knowledge is extremely interesting and important. But in a limited degree anyone with a proper microscope and a few simple articles, who cares to spend the time and acquire the knowledge necessary, can make himself personally acquainted with these minute creations, and thereby increase the sum of his knowledge and happiness. The oil immersion lens and the stained object are the requirements for proper observation of bacteria. With a dry objective of 100 diameters, they cannot be seen. With one of 500 diameters they can be seen, but imperfectly, and we cannot be sure of what we see. Under an oil immersion lens, magnifying 1,100 diameters, they can be as accurately distinguished as ants and bees with the naked eye.

Whoever has taken the pains to look through such a glass upon a well stained slide, has been introduced to a world of life, which is as absolutely cut off from the reach of the unaided senses as the region of departed spirits.

Without wishing to pose as an authority on microscopy, or as an expert on bacteriology, I would like to offer to the society some desultory remarks on these microscopic forms and a few reflections bearing on some theories and performances growing out of the researches in the domain of bacteria.

The property of a bacterium, which is the most difficult for the mind to appreciate, is its size. Indeed, it is impossible to take in such unfamiliar

smallness. When it is said that a given germ measures so and so by figures and signs of the metric scale, we by no means bring the matter any nearer to our comprehension. Accustomed as we are to dealing with objects of ordinary dimension, the extremely minute and the extremely vast alike elude the grasp of the human understanding. In order to form any conception of such matters at all we have to resort to comparisons. A lens magnifying 1,100 diameters has a gross power of enlarging an object 1,210,000 times. Under such a glass a typical bacillus appears to be less than one-eighth of an inch long and as thick as a fine thread. What then is the actual size of the bacillus? What man understands the meaning of a million? We may get a step nearer to the reality by putting the matter in another way. The field or circle of light seen under the lens last mentioned appears to be about four inches in diameter. It is in reality no larger than the thickness of a small pin. Within this field it would be possible to count about 11,000 ordinary bacilli laid side by side, so as not to overlay each other. That is to say, 11,000 bacilli could be collected on a space the size of a pin's thickness. There is no claim that this statement is the product of an exact mathematical calculation. But it is the result of a close observation and some actual counting, and is a conservative estimate. It is as good an illustration as I can think of for assisting the staggering imagination to conceive the size of the bacillus. We can grasp fairly the idea of 11,000 and clearly the diameter of a pin. As cocci generally occupy less room than bacilli it would be possible to have a larger number of the former on the same surface.

There are many conscientious men practicing surgery to-day who, despairing of all means of rendering their hands absolutely aseptic, have resorted to the use of aseptic gloves during operations. Some of these surgeons wear rubber gloves, which are impervious to any germ which may be on the fingers. Some others, I believe, use knit or woven gloves, because rubber interferes with the sense of touch. Their practice is as useless and absurd and inconsistent with facts as anything could well be. We substantiate this charge by the following observations, the truth of which can be corroborated easily by anyone who would like to look into it. I have placed under the microscope sections of various woven goods, the finest I could obtain. With 100 diameters, the spaces between the threads which are quite irregular, average an apparent size of a little less than half an inch square. Under 1,100 diameters these openings cover more than the whole field. We see, therefore, that wherever the threads cross each other, an opening exists, through which at least 11,000 bacteria can pass for each space. It is as easy for a pathogenic germ to pass through such a glove as for a mouse to go through an open church door. It is, furthermore, true that all the cloths that I have examined are far finer than the gloves which have been sold for surgeon's use. If, therefore, a surgeon wears such gloves to prevent germs passing from his hands to the wounded patient, comment is unnecessary.

The forms of bacteria present great sameness. There are only three—

spheres, rods and spirals—though they vary in size. The spheres and rods are, perhaps, equally abundant; spirals very much less so. It is this sameness of appearance under magnification which makes it hard to know one germ from another, merely by the microscope. Indeed, except in the few cases where germs are odd or have peculiarities of staining or grouping, differentiation by the microscope alone is impossible. As far as I have been able to observe minute objects, pollens come nearer in appearance than any other things to bacteria. Sometimes the resemblance is striking. But all the pollens I have seen are much larger than bacteria, and seem to have a more complicated structure.

The ubiquity of germs is an impressive fact.

They have been found in about every place where they have been looked for, and probably are to be found everywhere else. Another matter of great significance to us is the extreme rapidity with which some of them multiply. A good authority has stated that certain bacteria undergo complete fission in an hour, and that under favorable conditions this process goes right on. If this be true, and supposing the growth be not interfered with we find that in the twenty-four hours the descendants of one germ will reach the incredible number of 16,777,216. When we consider that a person exposed to an infection probably takes in many germs to start with, we many understand why we can look into a child's throat one day and find it red and the next day find in the same throat an extensive growth of the diphtheria fungus. I have several times examined fresh, healthy urine and found it free from germs, and the next day a drop of that same urine, if it had been exposed to the air only for a few moments, would be so crowded with organisms that they were piled upon each other all over the cover glass. Such bacteria were probably most of them the common saprophytes which abound in the air, but the experiment shows how rapidly certain microbes proliferate when they meet with the food moisture and warmth which they require.

In more than one department of biology it has been found that the line between the animal and vegetable kingdoms is so indistinct that there have been disputes among naturalists as to where a particular structure belongs. Bacteria are generally held to belong to the vegetable kingdom. But when such a matter cannot be positively settled, every man has a right to advance an opinion, provided he can give a reason for the same. My opinion is that some of these organisms are animals and others are plants. Modern dictionaries, after attempting to define "animal" and "plant," admit that they are unable to do so clearly. The "Standard" says, "It is impossible to establish any absolute demarcation between plants and animals, the lowest forms of both lacking more and more their respective characteristics." This being the case we have to fall back on the old-fashioned statement. "An animal is an organism having life and the power of independent or voluntary motion." According to this, some bacteria are plants, as for example, the tubercle bacillus, which is non-motile, while the typhoid bacillus is an animal, for it not only has the

power to move, but is an extremely restless and agile creature. I have placed a drop of water, in which I allowed a piece of fish to decay, under the oil immersion lens and found innumerable germs. Some of them were quite motionless, while others were in incessant motion, their shadowy forms skipping about and across the field with an activity, in proportion to their size, equal to the motion of—say a cat or squirrel across Tompkins Park.

Bacteria are the simplest forms of life with which we have been made acquainted. And we cannot conceive of any simpler. They are said to consist merely of an envelope filled with protoplasm. This protoplasm, formerly known by other names—sarcodæ, cytoplasm, bioplasm, germinal matter—is a something before which we stand filled with wonder and an eager curiosity—a curiosity which is and will remain unsatisfied. It is when we get to protoplasm that we find the place where the mystery of life enters into its union with matter. For a long time materialists held that protoplasm was life. But the chemist came and broke it up into its separate elements. It is called by Huxley the “physical basis of life.” But protoplasm is not life. It is the expectant jelly waiting for the Master of Life—the clay prepared for the potter. And so it remains until Jehovah stretches forward His creative hand and touches the plastic protoplasm with the torch of life, when instantly the inert matter leaps across the line which separates the living from the dead, and tremblingly puts on the dignity of life. The essence which we speak of as life is forever beyond the reach of the senses, no matter how they may be aided. The microscope brings us no nearer to it than the unassisted eye. Even the proud reason wanders about in confusion seeking in vain to seize upon it, and only by means of the higher, more ethereal faculties of imagination and faith can we lay hold on the vital principle.

“Faith lends its realizing light,
The clouds disperse, the shadows fly.
The Invisible appears in sight,
And God is seen by mortal eye.”

This is not mere enthusiasm. It is not superstition. It is the highest science. For science demands a cause, and every other cause, when followed far enough, leads invariably upward to the Great First Cause.

In the work of the doctor, the microbe and its relation to disease is so bound up with the subject of asepsis that we cannot properly consider one without the other. The genius of Lister using other men's discoveries has made it possible for the surgeon to-day to do a few little acts which, if they had been attempted by his predecessors, would probably have resulted in indictments for manslaughter. The study and practice of asepsis has been of such enormous benefit to our race that it is hardly possible to say too much in its favor. But it may be possible for a great truth to be injured more by its friends than by its enemies. It is possible for it to be rendered absurd by false practices and neglected from unreasonable requirements. Unfortunately, there are some men who may

be keen and bright, but who have a scanty supply of judgment or common sense. Such a man when he gets hold of a new fact is prone to forget every other established fact. He is not able to perceive the bearing of one thing upon another, and forthwith becomes a fanatic—a high priest of superstition and folly. The fact that we have seen germs is no reason why the world should be burned up to get rid of them. Just take the single matter of disinfecting the hands before an operation and listen to what a continuous babel of discordant sounds we hear. Each champion of a particular method or germicide contradicts the others and tries to show how full of error all conclusions are except his own. A new work which has just been reviewed is by Dr. Richard Schaeffer, of Berlin. He having gone over the studies and experiments of others, asserts that the best method of disinfecting the hands is by the use of hot water, soap and alcohol. To those unreasonable persons who are looking for absolute perfection in this regard we can say that the only way to obtain it is to boil the surgeon for three hours before each operation. Even then we cannot guarantee that he will not collect some more germs from the air as he passes between the sterilizer and the patient. In order to make everything thoroughly secure it would be even better to place both surgeon and patient in the sterilizer, and after they are boiled together for three hours, let the surgeon operate before the lid of the sterilizer is removed. Such proceedings would be more than innovations; they would be revolutionary, and they would never become popular on account of the constitutional and perverse objections which some surgeons would be sure to entertain to the prolonged high temperature.

The fact is, that the distance between good enough and absolutely perfect may not be a great one, but it is impossible to get over it. Fortunately it is not necessary. The surgeon who washes his hands thoroughly with good soap and warm water and a brush and then steepes them in any reliable germicide, has done as well as he can for his patient, and as well as he needs to do. We cannot get rid of the last germ, but can remove the most, and the resistance of the patient must be trusted to do the rest.

Then there is that long-eared enthusiast who balks as if he believed it possible to annihilate all pathogenic germs—to “stamp them out,” as he calls it. His is the dream of dreams. The germs are safe from him and from annihilation. Their ubiquity, their minuteness, their numbers and their invisibility render them secure. We shall triumph over them more and more, but we shall never exterminate them. We may confidently feel, so far as their existence on the earth goes, that as it was in the beginning, it is now, and ever shall be.

In the Garden of Eden, the very first day

Father Adam accosted his wife,

It is certain that both upon him and on her

There were swarms of bacterial life.

When Noah went up through the doom of the Ark,

He had every variety there,

On 'himself and his wife and his sons and their wives,
 On the beasts and the fowls of the air.
 When from Egypt the children of Israel came
 And had spread themselves over the plain,
 Careful estimates made by their own Board of Health
 Showed ten billion microbes to a man.
 And all through the ages these pestilent germs
 Have continued to flourish and grow,
 'Till each doctor to-night in this very same room
 Sports a couple of million or so.
 Just as long as the planet revolves on its pole,
 Though the Boards of Health caper and roar,
 There will be, notwithstanding, the best germicides
 Both bacilli and cocci galore.
 And when Gabriel comes with his terrible horn
 To announce that the old world is "through,"
 We shall find his wind instrument full of microbes
 And they'll be on old Gabriel, too.

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ERRATUM.

In Line 19, p. 284, from top, for Bilobular read Bilocular.

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